

TENDER SPECIFICATION

SI No	Tender Specification Number	Unit Number & Project
1	BHE/PW/PUR/MANUT-CVL Chimney Pkg-A (U-1&2) /1435	Chimney, Package-A (Unit-1&2)
2	BHE/PW/PUR/MANUT-CVL Chimney Pkg-B (U-3&4)/1437	Chimney, Package-B (Unit-3&4)

PACKAGE A- CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY OF UNIT 1 & 2 AT 4X 270 MW BHADRADRI TPS,TELENGANA.

PACKAGE B- CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY OF UNIT 3 & 4 AT 4X 270 MW BHADRADRI TPS, TELENGANA.

TECHNICAL BID- VOLUME- I

TENDER SPECIFICATIONS CONSISTS OF:

- Notice Inviting Tender
- Volume 1 A - Technical Conditions of Contract,
- Volume 1 B - Special conditions of Contract,
- Volume 1 C - General conditions of Contract
- Volume 1 D - Forms & Procedures



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

Volume No	Description	Hosted in website bhel.com as files titled
NIL	Tender Specification Issue Details	(Part of <u>Vol-IA-1435-1437</u>)
NIL	Notice Inviting Tender	(Part of <u>Vol-IA-1435-1437</u>)
I-A	Technical Conditions of Contract	Vol-IA-1435-1437
I-B	Special Conditions of Contract	Vol-IBCD-1435-1437
I-C	General Conditions of Contract	(Part of <u>Vol-IBCD-1435-1437</u>)
I-D	Forms & Procedures	(Part of <u>Vol-IBCD-1435-1437</u>)
II	TECHNICAL SPECIFICATIONS	Vol-IE-1435-1437
II	Price Bid Specification	Vol-II-1435-1437

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2	BHE/PW/PUR/MANUT-CVL Chimney Pkg-B (U-3&4)/1437	Package-B (Unit-3&4)

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PACKAGE B- CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY OF UNIT 3& 4 AT 4X 270 MW BHADRADRI TPS, TELENGANA.

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR TENDER SUBMISSION: Refer Notice Inviting Tender

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

M/s.

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PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)
Place: Nagpur
Date:

1435

NOTICE INVITING TENDER

BHEL PSWR

Notice Inviting Tender

Tender Specification No: BHE/PW/PUR/MANUT-CVL Chimney Pkg-A (U-1&2) /1435
BHE/PW/PUR/MANUT-CVL Chimney Pkg-B (U-3&4)/1437

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Ref: BHE/PW/PUR/MANUT-CVL Chimney Pkg-A (U-1&2) /1435/ Pkg-A (U-3 & 4)/1437

Date: 08/04/2015

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

To

Dear Sir/Madam

Sub : **NOTICE INVITING TENDER**

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

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	SI No
		Tender Specification Number
		Unit Number & Project
1	BHE/PW/PUR/MANUT-CVL Chimney Pkg-A /1435	Package-A (Unit-1&2)
2	BHE/PW/PUR/MANUT-CVL Chimney Pkg-B /1437	Package-B (Unit-3&4)
ii	Broad Scope of job	<u>PACKAGE A-</u> CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY OF UNIT 1&2 AT 4X 270 MW BHADRADRI TPS, TELENGANA. <u>PACKAGE B-</u> CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR

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		CHIMNEY OF UNIT 3& 4 AT 4X 270 MW BHADRADRI TPS, TELENGANA.	
iii	DETAILS OF TENDER DOCUMENT		
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i>	Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i>	Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i>	Applicable
d	Volume-ID	<i>Forms and Procedures</i>	
e	Volume-II	<i>Price Schedule (Absolute value).</i>	Applicable
iv	Issue of Tender Documents	<p>1. <u>Sale from BHEL PS Regional office at :</u> Start : 15/04/2015 , Closes: 05/05/2015 , Time : 16.00 Hrs</p> <p>2. From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission</p>	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	<p>Date : 06/05/2015, Time 15.00 Hrs Place : <u>BHEL PS Regional office at :Nagpur</u></p> <p>Tenders being submitted through representative shall be submitted at dispatch section of PSWR HQ Office after making entry/registration at the reception. For any assistance on the matter kindly contact following officials:</p> <ul style="list-style-type: none"> ● Pratih Gee Varghese / Sr Engineer (Purchase) ● Shivkesh Meena / Engineer (Purchase) 	Applicable
vi	OPENING OF TENDER	<p>1 hours after the latest due date and time of Offer submission</p> <p>Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender</p>	Applicable
vii	EMD AMOUNT	<i>Rs 2,00,000/- (Rupees Two Lakhs Only)</i>	Applicable
viii	COST OF TENDER	<i>Rs 2000/- (Rupees Two Lakhs Only)</i>	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	<i>Five days before the due date of offer submission. Along with soft version also, addressing to undersigned & to others as per contact address given below</i>	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	<i>Date :</i>	Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT	Mrs. Pravin Tripathi, IA & AS (Retd.) D-243, Anupam Gardens, Lane IB, Neb	Applicable

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	EXTERNAL MONITOR (IEM)	Sarai, Sainik Farms, New Delhi – 110 068 Email: pravin.tripathi@gmail.com	
xii	Latest updates	<u>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) and not in the newspapers.</u> Bidders to keep themselves updated with all such information	

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

Sl no	Description	Remarks
	Part-I A	
	ENVELOPE – I superscribed as : PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:-	

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

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

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

OUTER COVER	
	ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:
	CONTAINING THE FOLLOWING:
i	<ul style="list-style-type: none"> ○ Envelopes I ○ Envelopes II ○ Envelopes III

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

- 7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
- 9.0 **Assessment of Capacity of Bidders:**
Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:
- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of

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the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

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

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

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

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

- i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions for the 'Period of Assessment':
This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:
- a) $P_1, P_2, P_3, P_4, P_5, \dots, P_N$ etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (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 ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-N}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-N}$). Similarly S_2 for package P_2 for period T_2 , S_3 for package P_3 for period T_3 , etc for the tendered scope for all Regions. Now calculate cumulative sum ' S_T ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' P_T ' for all Regions (i.e ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$)

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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):

$$= \frac{\text{Aggregate of Performance scores for all similar packages in all the Regions}}{\text{Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions}}$$

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

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

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

Sl no	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P ₁	P ₂	P ₃	P ₄	P ₅	...	P _N	Total No of similar packages for all Regions = P _T 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 ₁	T ₂	T ₃	T ₄	T ₅	...	T _N	Sum (Σ) of columns (iii) to (ix) = T _T
3	Monthly performance scores for the corresponding period (as in Row 2)	S ₁₋₁ , S ₁₋₂ , S ₁₋₃ , S ₁₋₄ , ... S _{1-T1}	S ₂₋₁ , S ₂₋₂ , S ₂₋₃ , S ₂₋₄ , ... S _{2-T2}	S ₃₋₁ , S ₃₋₂ , S ₃₋₃ , S ₃₋₄ , ... S _{3-T3}	S ₄₋₁ , S ₄₋₂ , S ₄₋₃ , S ₄₋₄ , ... S _{4-T4}	S ₅₋₁ , S ₅₋₂ , S ₅₋₃ , S ₅₋₄ , ... S _{5-T5}	S _{N-1} , S _{N-2} , S _{N-3} , S _{N-4} , ... S _{N-TN}	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S ₁	S ₂	S ₃	S ₄	S ₅	...	S _N	Sum (Σ) of columns (iii) to (ix) = S _T

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

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

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

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

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

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

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 9.1)

IV. Explanatory note:

- a) Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the

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

b) Identified Packages (Unit wise)

Table-1

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

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

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

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

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

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

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

d) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of

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Bidders' or due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R_{BHEL}'** only, starting from the upper band.

- e) 'Under execution' shall mean works in progress as per the following:
- i. up to Boiler Steam Blowing in case of Steam Generator and Auxiliaries
 - ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
 - iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.
- Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.
- f) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work

- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**

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- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .
- However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:
- 23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.
- 23.2 'Stand alone' bidder cannot become a '**Prime Bidder**' or a '**Consortium bidder**' or '**Technical Tie up bidder**' in a consortium (or Technical Tie up) bidding. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.
- 23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR
- 23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work

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- 23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0
- 23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'
- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.
- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 Order of Precedence
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
 - Notice Inviting Tender (NIT)
 - Price Bid
 - Technical Conditions of Contract (TCC)—Volume-1A
 - Special Conditions of Contract (SCC) —Volume-1B

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- f. General Conditions of Contract (GCC) —Volume-1C
 - g. Forms and Procedures —Volume-1D

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

for BHARAT HEAVY ELECTRICALS LTD

AGM Pur

Enclosure

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

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ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	<p><u>PACKAGE A-</u> CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY OF UNIT 1&2 AT 4X 270 MW BHADRADRI TPS, TELENGANA.</p> <p><u>PACKAGE B-</u> CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY OF UNIT 3& 4 AT 4X 270 MW BHADRADRI TPS, TELENGANA.</p>	
SI No	Tender Specification Number	Unit Number & Project
1	BHE/PW/PUR/MANUT-CVL Chimney Pkg-A (U-1&2)/1435	Package-A (Unit-1&2)
2	BHE/PW/PUR/MANUT-CVL Chimney Pkg-B(U-3&4) /1437	Package-B (Unit-3&4)

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	Submission of Integrity Pact duly signed (if applicable) (Note: To be submitted by Prime Bidder & Consortium/Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)	APPLICABLE	
B	<p><u>Technical</u> Bidders shall essentially meet all the Qualifying Requirements (i.e. B.1 and B.2) as under.</p> <p><u>B.1:</u> Bidder Must have executed One</p>	APPLICABLE	

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	<p>RCC Chimney of a unit of at least 190 MW in last seven years as on the latest date of offer Submission.</p> <p align="center">AND</p> <p>B.2: Executed 'RCC Chimney' work in Power/ Industrial/ infrastructural projects in last seven years as on latest date of bid submission as below.</p> <p>B.2.1) Executed One similar work of value not less than Rs. 2144 Lakhs against single work order.</p> <p align="center">OR</p> <p>B.2.2) Executed Two similar works each of value not less than Rs. 1340 Lakhs against maximum two work orders.</p> <p align="center">OR</p> <p>B.2.3) Executed Three similar works each of value not less than Rs. 1072 Lakhs against maximum three work orders.</p>		
C-1	<p><u>Financial TURNOVER</u> Bidders must have achieved an average annual financial turnover (audited) of Rs 1340 Lakhs or more over last three Financial Years (FY) i.e. 2011-2012, 2012-2013, 2013-14</p>	APPLICABLE	
C-2	<p><u>NETWORTH</u> (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.</p>	APPLICABLE	
C-3	<p><u>PROFIT</u> Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.</p>	APPLICABLE	
D	<p>Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)</p>	APPLICABLE	By BHEL
E	<p>Approval of Customer (if applicable)</p>	APPLICABLE	BY BHEL

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	Note: 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.		
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E		BY BHEL
F	Technical Tie up criteria (if applicable)	Not applicable	
<p><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></p> <ol style="list-style-type: none"> 1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures 2. In case audited Financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three. 3. C-2:-NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies) 4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above 5. 'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, Electrical, CI, unless otherwise specified : <ol style="list-style-type: none"> 1. Bidder should have executed similar work of any one of the following: <ol style="list-style-type: none"> a. One (1) work of value not less than Rs XXX _____OR b. Two (2) works of not less than Rs YYY _____OR c. Three (3) works of not less than Rs ZZZ <p>(Value XXX, YYY, ZZZ shall be as indicated by BHEL)</p> 2. 'Similar' work for criteria 5 above means <ol style="list-style-type: none"> a. Civil or Structures or Civil & Structures or Chimney respectively as applicable to the tendered scope in respect of 'CIVIL' Works b. Electrical works in respect of 'ELECTRICAL' c. CI works in respect of 'CI' Works d. Material Handling and/or Management works in respect of 'MM' works 6. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission 7. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed, Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means: <ol style="list-style-type: none"> 1. "BOILER LIGHT UP" in respect of Boiler & Aux and ESP 2. Term 'Commissioning' indicated in PQR refers to 'assistance to commissioning' / 'commissioning' 3. "SYNCHRONISATION" in respect of STG/GTG and 'SPINNING' in case of HTG 4. "STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping 5. "HYDRAULIC TEST" of the system in respect of Structures, Pressure parts/IBR Piping 			

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	<p>6. “CHARGING” in respect of power Transformers, Bus ducts, HT/LT switchgears.</p> <p>7. “Completion of RCC Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form” in case of RCC Chimney.</p> <p>8. Achievement of physical Quantities as per respective PQRs in respect of Civil & Structures and Piling Works</p> <p>9. “Readiness for coal Filling” in respect of Bunker Structure Work.</p> <p>8. Boiler means HRSG or WHRB or any other types of Steam Generator.</p> <p>9. Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines</p> <p>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.</p> <p>11. In case the experience/POAWO certificate enclosed by bidders do not have separate break up prices for the E&C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical & CI and other works if any), then value of Erection and Commissioning for the Electrical & CI portion shall be considered as 15% of the supply & erection of Electrical & CI, unless otherwise specifically indicated in the PQR.</p> <p>12. Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.</p> <p>13. In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR</p> <p>14. The value of work (Experience submitted against PQR B) shall be updated as per the PVC indices for “All India Avg. Consumer Price Index for Industrial Workers” with base month as date of execution (completion of contract/work) and indexed upto two months prior to bid opening month.</p>
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BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

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ANNEXURE - 2

CHECK LIST

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

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

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13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not Applicable	YES/NO

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

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

Annexure-3

INTEGRITY PACT

Between

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

And

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

Preamble

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

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

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

Section 1 - Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a

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

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

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

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

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

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

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

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document

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- provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidders (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

Section 4 – Compensation for Damages

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

Section 5 – Previous Transgression

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

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

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

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

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

Section – 8 Independent External Monitor(s)

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

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

Section 9 – Pact Duration

- 9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

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9.2 If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

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

For & On Behalf of the Principal
Contractor

(Office Seal)
(Office Seal)

For & On Behalf of the Bidder/

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Annexure-4

IMPORTANT INFORMATION

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

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

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

AGM Purchase, Email id: ska@bhelswr.co.in, Ph: +91 – 712 – 3048633

Sr Engineer Purchase, Email: pgv@bhelswr.co.in, Ph: +91 – 712 – 3048713

Engineer Purchase, Email id: svm@bhelswr.co.in , Ph: +91 – 712 – 3048715

1. **The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site (www.bhel.com ---> Tender Notification -> List of Banned Firms)**
2. **Refer Chapter XII of Volume IB Special Conditions of Contract regarding Suspension of Business Dealings:** The abridged version of extant ‘Guidelines for suspension of business dealings with suppliers/ contractors’ has now been uploaded on www.bhel.com on “supplier registration page” at the following link: http://www.bhel.com/vender_registration/pdf/Suspension-of-Business-Dealings-with-Supplier-issued-Sept13_abridged.pdf
3. **All Statutory Requirements as applicable for this project shall be complied with.**
4. **Please take note of following Revised Tender Clauses:**
 - i. Notice Inviting Tender: Sl No 9
 - ii. General conditions of Contract: Clause No 1.15.13 (New), Clause No 2.8.3, 2.8.4 and 2.8.5
5. Following Notes are added to Form F- 15 of Volume I D ‘Forms & procedures’
 - i. It is only indicative and shall be as per the online format issued by BHEL time to time.
 - ii. No request will be entertained after specified date of the current month w.r.t the changes requested in the scores of immediate previous month.
6. **This is a combined tender for Construction 2 Nos Chimney Package-A (Unit 1 & 2) and Package-B (Unit 3 & 4) of height 275 Mtr each at 4X 270 MW BHADRADRI TPS,TELENGANA.**

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- i Tender specification (Volume I) is common for both Packages i.e. **Package-A (Unit 1 & 2) and Package-B (Unit 3 & 4)**.
 - ii **Package-A (Unit 1 & 2) and Package-B (Unit 3 & 4)** shall be awarded to separate agencies.
 - iii **Bidder has to submit their Price for Package-A (Unit 1 & 2) Construction of a Chimney of 4X 270 MW BHADRADRI TPS,TELENGANA as indicated in the Price Bid.**
 - iv L-1 Bidder shall be considered for award of **Package-A (Unit 1 & 2)**.
 - v For award of **Package-B (Unit 3 & 4)**, next bidder in the order of their price competitiveness (i.e L-2, then L-3 and hence forth) shall be given an option to match their price/rate, with the Awarded/Finalised price/rate of **Package-A (Unit 1 & 2)**. In case none of the bidders agree to match the Awarded price/RATE of **Package-A (Unit 1 & 2)**, then BHEL may consider awarding the **Package-B (Unit 3 & 4)**, to L-1 bidder or opt any other suitable method to finalize Package-B (Unit 3 & 4).

7.PRICE VARIATION CLAUSE

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

Clause No. 2.17.9 of Vol IC GCC is revised as below:-

PVC shall be applicable only during the extended period of contract (if any) after the schedule completion date for the portion of work delayed / backlog for the reasons not attributable to Contractor. However total quantum of Price Variation amount payable/recoverable shall be regulated as follows:

- i. For the portion of backlog attributable to the contractor and for the portion of backlog due to force majeure condition during contract period, PVC shall not be paid.
- ii. For the period of force Majeure during extended contract period, PVC will be as per the indices applicable at the beginning of the force majeure period.
- iii. void
- iv. The total amount of PVC shall not exceed 20% of the cumulatively executed contract value during the extended contract period. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works.

Clause No. 2.17.5 of is modified as below:-

Base date shall be the calendar month of the (schedule completion date of the contract + Period extended for the reasons due to Force Majeure Condition). Schedule Completion date shall be the actual start date plus contract period as defined in Chapter VI 'Vol IA TCC'

8. OVER RUN COMPENSATION

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

9. Broad Terms & Conditions of Reverse Auction

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

- 9.1. Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON

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- LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).
- 9.2. BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids. In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- 9.3. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- 9.4. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit ‘online sealed bid’ in the Reverse Auction. Non-submission of ‘online sealed bid’ by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- 9.5. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- 9.6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- 9.7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- 9.8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- 9.9. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at “Total Cost to BHEL” like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for noncompliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- 9.10. Reverse auction will be conducted on scheduled date & time.
- 9.11. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- 9.12. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- 9.13. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL’s standard practice.
- 9.14. Bidders shall be required to read the “Terms and Conditions” section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service

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provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.

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

10. Following technical Specifications and Drawings shall be integral part of this specification:

Sl. No	Description	Specification number
1	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME -II B SECTION-C1
2	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME -II B SECTION-D
3	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME -II B SECTION-D
4	General Arrangement Drawing of chimney.	PE-DG-411-620-
5	GEO TECHNICAL LAB REPORT FOR RCC CHIMNEY	

1435-
14370

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BHARAT HEAVY ELECTRICALS LIMITED



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Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details)

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2	Scope of Works and Technical Specifications	Chapter-II
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V
6	Time Schedule	Chapter-VI
7	Terms of Payment	Chapter-VII
8	Taxes and other Duties	Chapter-VIII
9	Tender Drawings	Chapter-IX
10	Appendix	Chapter-X

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

1.0	<u>Project Information</u> Bharat Heavy Electricals Ltd. has received an EPC contract to set up 4X270 MW Super Thermal Power Plant from Customer (M/s. TSGENCO) at their TSGENCO 4x 270 MW BHADRADRI Thermal Power station at Telengana.
1.1	<u>LOCATION AND APPROACH:</u> Location : Village: Ramanujavaram, Manuguru, District- Khammam, Telangana Latitude: N18° 01.441' Longitude: E080° 43.80' Nearest Railway Station : Manuguru (20 KM from site) Nearest Airport : Vijaywada (220 KM from site) Access By Road : Burgampadu Eturnagaram Road Source Of Coal: M/s Singareni Collieries Company Limited Source Of Water: Godavari River nearby site 1.2 <u>CLIMATIC CONDITIONS:</u> 1) Maximum ambient Temperature: 28 degree Centigrade 2) Minimum ambient Temperature: degree Centigrade 3) Seismic Zone : Zone-III 4) Relative Humidity: 45 % 5) Wind Speed: 44m/sec

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter - II: Scope of Works and Technical Specifications

2.0	<p>Site Visit</p> <p>Contractor should visit 2x270 MW Bhadradri TPS, Manuguru project site, to acquaint himself with the conditions prevailing at site and in and around the plant premises, together with all the statutory, obligatory, mandatory requirements of various authorities before submission of the bid.</p>
3.0	<p>Scope of Work</p>
3.1	<p>The work comprises of construction of two unit of 275M high Reinforced Concrete Twin steel flue Chimney complete with reinforced concrete raft foundation, RCC, steel, internal steel platforms, staircase, appurtenances, fixtures, fittings, conduit and other embedment, lift (inside windshield), ventilation etc. complete. R.C.C. shell, insulation and provision of other accessories including external platforms, fabrication and fixing of flue duct inside the chimney, complete interior and Air Aviation Obstruction lighting system, gas sampling ports, opacity measurement ports, lightning protection and grounding system, doors for access to the shell, external platforms and inspection of the liners, ladders, communication system components, embedment for installation of equipment and fixtures and painting both internal and external of the chimney shell as well as of all doors, stairs, ladders and other structural steel items in accordance with this specification and approved drawings.</p> <p>AT TSGENCO'S 4x 270 MW BHADRADRI Thermal Power station at Telengana.</p> <p>The packages are As follows:</p> <p><u>PACKAGE A-</u> CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY FOR UNIT 1 & 2 AT 4X 270 MW BHADRADRI TPS, TELENGANA.</p> <p><u>PACKAGE B-</u> CONSTRUCTION OF ONE NUMBER OF 275M HIGH REINFORCED CONCRETE TWIN STEEL FLUE CHIMNEY ,INSULATION, AVIATION LIGHTING & ASSOCIATED ELECTRICAL AND EARTHING SYSTEMS ALL COMPLETE FOR CHIMNEY FOR UNIT 3 & 4 AT 4X 270 MW BHADRADRI TPS, TELENGANA.</p>
	<p>The supply, erection, testing and commissioning of chimney Elevator are in the scope of this work. The contractor shall make provision to accommodate chimney elevator within the annular space of R.C.C. Shell and all Civil and structural steel works required for erection, testing and commissioning of the elevator shall be in the scope of this work.</p>
3.1.1	<p>Micro Grading</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works and Technical Specifications

	After the completion of civil work the entire area shall be micro graded up to required levels by the contractor to achieve the ground profile as per pavement level requirement at no extra cost. Filling/ cutting required to bring the site up to the required finished levels is in the scope of the contractor. Extra earth required to make up to paved levels shall be arranged by the contractor at his own cost from approved borrow areas.
3.1.2	Carrying out topographic survey of the entire and establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide the owner/BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
3.1.3	The work has to be performed with utmost care and quality. Bidders are required to take WC policy before commencement of work.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works and Technical Specifications

3.2	The quantities of the various items mentioned in the schedule are approximate and may vary up to any extent or be deleted altogether. The overall variation in contract value on execution shall be dealt as per GCC.
3.3	Mix design (M 25, M 30/M 35) for all concreting shall be carried out either at site or from a reputed institute, contractor has to ensure adding of admixture and minimizing of cement content in line with IS 456 as advised by BHEL time to time without any additional cost. The Mix design has got to be approved by BHEL AND TSGENCO.
3.4	The scope under this specification covers the construction of Twin flue Reinforced Concrete Chimney including providing all labour, supervision, materials, scaffolding, power, fuel, construction equipment, tools and plants, supplies, transportation, storage, insurance and all incidental items not herein specifically mentioned but reasonably implied or which may be found necessary for successful completion of the work including contractor's, and where necessary manufacturer's expert supervision in strict compliance with the requirements of this specification and approved construction drawings. The tendered amount shall be for the chimney to be completed in all respect as per this specification for the purpose required.
3.5	The scope shall also include setting up by the bidder a testing laboratory with minimum required facilities in the field to carry out all relevant tests. Detail of laboratory equipment as per Annexure-A is to be arranged by the contractor within quoted rate. For conducting day to day one no. chemist to be deployed as necessary.
3.6	As instructed by BHEL and as per approved FQP, Materials required for the entire job (other than issued by BHEL as explained above) like sand, aggregates, and all other material required for the completion of entire scope have to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL/TSGENCO reserves the right to reject any material not found satisfactory. All the materials to be procured by the bidder must be approved by BHEL/TSGENCO.
3.7	All quality standards, tolerances, welding standards & other technical requirements shall be strictly adhered to. The Bidder shall fully apprise himself of the prevailing conditions at the proposed site, climatic conditions including monsoon pattern, soil conditions, local conditions and site specific parameters and shall include for all such conditions and contingent measures in the bid, including those which may not have been specifically brought out in the specifications.
3.8	The contractor shall prepare, at his own cost, the detailed working drawings showing all details of the formwork staging (adequacy to be supported by design calculations) and other arrangements for the concreting work and submit six copies of the same for the approval of the Engineer-in-Charge /consultants and only on the receipt of the approval of the consultants the work shall be taken up.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
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3.9	The work shall be carried out as per construction drawings, specifications, the description of the items in this schedule and/or Engineer's instructions, Drawings enclosed with these documents are only indicative giving some idea of the type of work involved. Final drawings will be issued progressively during the execution of the work.
3.10	Engineer's decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract
3.11	Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
3.12	The contractor shall prepare, at his own cost, the detailed working drawings showing all Electrical details and Elevator details.
3.13	Preparation of bar bending schedule & schedule of embedment and getting the same approved by BHEL Engineer. The detailed fabrication drawings for doors, rolling Shutters, flue ducts, structural steel liners and platforms, ladders, M.S. staircases, hand rails and other fixtures shall also be prepared by the bidder and got approved from the BHEL/TSGENCO before undertaking the actual fabrication or erection of construction.
3.14	Arranging for joint checking (with BHEL/BHEL's Customer/Consultant) of all site construction activities Preparation of joint protocols for each & every activity and maintaining quality records for audit/inspection.
3.15	The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings. Further this is to be noted that the drawings and the documents furnished along with this specification are the sole property of B.H.E.L. It must not be used directly or indirectly in any way detrimental to the interest of the company.
3.16	Statutory clearance if any. BHEL shall provide necessary documents & reimbursement of fee on production of documentary proof.
3.17	Provision of portable type toilet blocks for working labour at site.
3.18	FABRICATION DRAWING
3.19	Contractor shall submit progress report pertaining to fabrication drawing, by 7th of each month, drawing-wise, section-wise cumulative bill of materials for which engineering drawing has been issued to them and status of fabrication drawing.
3.20	FABRICATION / GALVANISING

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works and Technical Specifications

3.20.1	All the fabrication of structural steel items (except nuts/bolts) shall be done in fabrication yard inside project premises. Bidders to note that all fasteners like MS/ HT/ HSFG bolts, nuts, lock nuts, washers etc shall be supplied by bidder as per technical specification/ drawings.
3.20.2	Bidder, at his own cost, shall supply electrodes required for fabrication, erection of structural steel as per specification and approval of BHEL.
3.21	STACK ELEVATORS
3.21.1	The contractor has to provide one number of stack elevator in chimney structure to carry goods and maintenance personnel to higher landings, the elevator will serve each landing and will facilitate the movement of personnel, goods and other maintenance related equipment to the various floors in the chimney. The design, manufacture, inspection and testing of Elevator shall comply with all currently applicable statutes, regulations and safety codes. Other internationally acceptable standard/codes, which ensure equal or higher performance than those specified shall also be accepted. Nothing in this contract shall be construed to relieve the contractor of the required statutory responsibility. In case of any conflict in the standard and this specification, the decision of the Engineer shall be final and binding.
3.21.2	Wherever specified or required the Equipment/system shall conform to various statutory regulations. Wherever required, approval for the equipment supplied under the specification from statutory authorities shall be the responsibility of the Contractor.
4.0	DEVIATIONS/CLARIFICATIONS
4.1	The bidder is required to submit with his offer in the relevant schedule/ format without any ambiguity. Any assumptions, presumptions, deviations etc. indicated or implied anywhere by the bidder except those indicated in the deviation schedule/ format will not be recognized and will not form a part of consideration / offer. In the absence of such filled-up schedule/ format it will be understood and agreed that the bidder's offer is based on strict conformance to the specification and no negotiation would be allowed in this regard. BHEL reserve the right not to recognize any / all deviations submitted after opening of the bid.
4.2	In case of any discrepancy between item description, relevant drawing and/or specification clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement
5.0	DEWATERING
5.1	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.

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6.0	LAND
6.1	The contractor has to plan and use the existing land inside the Project Premise 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 erections 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.
6.2	Contractor shall arrange land for labour colony with all necessary facilities like sanitation, electricity, drinking water etc. The contractor has to take necessary approval for layout, design of PEB houses and colony from BHEL and from statutory bodies prior to commencement of construction of labour colony.
6.3	The contractor will be responsible for handing back all lands, as handed over to him by BHEL/TSGENCO.
6.4	Area within plant premises for fabrication, batching plant, office, storage area etc. for construction purpose shall be provided as per availability free of cost.
7.0	WATER
7.1	BHEL will provide construction water at one point, within 1000 m from given work premises to the contractor. The 1000m is approximate and may vary upto any extent depending upon availability. Drinking water shall be arranged by contractor.
7.2	Further necessary network for construction water system shall be done by the bidder at his own cost.
7.3	Contractor should arrange on their own, drinking water in their labour colony.
7.4	BHEL shall not be responsible for any inconvenience or delay caused due to any interruption of water supply and the contractor shall claim no compensation for delay in work for such interruption. Contractor may make standby arrangement for water for which no separate payment shall be made by BHEL.
7.5	Contractor will have to arrange for storage of water to meet the day-to-day requirement. Bidder will ensure adequate supply of construction water to meet the requirement of water during major concreting.
7.6	The availability of construction water in 4X270 MW Bhadradi TPS project may be limited. Contractor shall ensure that no water is wasted. In this regard the contractor shall take all necessary measure towards preservation of water.
8.0	ELECTRICITY

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8.1	<p>CONSTRUCTION POWER & GENERAL ILLUMINATION NETWORK:-</p> <p>BHEL Shall Provide Construction Power free of charge at 415V level at one points (within 1000 M from his workplace), bidders has to make his own distribution arrangement to draw electricity. Contractor has to install meter for drawing of the construction power.</p> <p>The contractor has to provide 250KVA DG set as per requirement for backup power supply specially during construction of chimney shell incase the construction power fails due to any reason for smooth progress of the work during the construction of the chimney.</p> <p>The bidder will have to Procure & install General illumination system during construction right from start of his work. This system will include temporary pole lighting, portable lighting towers for construction period , and temporary lights at different floors/working areas for execution of the work & safety of workmen till the permanent illumination system is established, within the quoted rate. The illumination should be such that minimum illumination requirement as specified by Indian standards for general illumination is maintained.</p> <p>GENERAL:-</p> <p>If any other voltage level (other than normally available) is required, the same shall be arranged by the contractor from power supply as above. Contractor will have to provide at his own cost necessary calibrated energy meters (tamper proof, suitably housed in a weather proof box with lock & key arrangement) at point of power supply along with calibration certificate from authorized / accredited agency for working out the power consumption. In case of recalibration required for any reason the necessary charges including replacement by calibrated meters is to be borne by the contractor. Supply of electricity shall be governed by Indian Electricity Act and Installation Rules and other Rules and Regulation as applicable. The contractor shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases.</p>
8.2	The bidder shall have to provide earth leakage circuit breaker at each point wherever human operated electrical drives/ T&Ps are deployed.
8.3	The power supply will be from the available grid. BHEL shall not be responsible for any inconvenience or delay caused due to any interruption of power supply/ variation in voltage level and no compensation for delay in work can be claimed by the contractor due to such non-supply on the grounds of idle labour, machinery or any other grounds.
8.4	Bidder will have to arrange sufficient illumination at their own work areas.
8.5	The contractor should ensure that the work in critical areas is not held up in

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	the event of power breakdown. In the event of breakdown in the electric supply, if the progress of work is hampered, it will be the responsibility of the contractor to step up the progress of work after restoration of electric supply so that overall progress of work is not affected.
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8.6	The contractor shall have to make arrangement at their own cost for illumination that will be required in the working area for execution of the work & safety of workmen.
8.7	The contractor shall have to make arrangement at their own cost for illumination etc in labor colony. The power will be free of charge, however the contractor has to install meters and necessary accessories for monitoring the power consumption.
9.0	CONSUMABLE
9.1	Material required for the entire job (other than issued by BHEL as explained above) like sand, aggregates and all other material required for the completion of entire scope have to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL reserves the right to reject any material not found satisfactory.
9.2	All consumables, like gas, electrodes, chemicals, lubricants, admixtures for concrete etc. required for the scope of work, shall be arranged by the contractor at his cost from approved brand/make unless otherwise specifically mentioned in the contract.
9.3	All consumables to be used for the job shall have to be approved by TSGENCO/ BHEL prior to use.
9.4	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.
9.5	Furnishing samples of all materials required by the engineers for testing/inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
9.6	All the material required for work shall be purchased from only the vendors approved by BHEL/TSGENCO/CONSULANT. List of such approved vendors to be obtained by contractor before purchase of any materials. The list may undergo revisions from time to time. Therefore, the contractor shall ascertain concurrency of approval in respect of any vendor from whom he is likely to source any item.
10	TEST CERTIFICATES
	Necessary test certificates of all materials supplied by contractor are to be produced to BHEL prior to use of those materials.
11	IMTE
	The contractor shall ensure deployment of reliable and calibrated instrument, measuring, and test Equipment (IMTE). The IMTE shall have test calibration certificate from authorized / Govt. approved agencies. The contractor shall also keep provision of alternate engagement for such IMTE so that the work does not suffer when a particular IMTE is sent for calibration. Re-testing/ re-calibration shall also be arranged by the contractor at their own cost at regular interval during the period of use as advised by BHEL.
12	QUALITY CONTROL & QUALITY ASSURANCE
	Contractor's Engineers and supervisors shall be adequately qualified and also inclined to do a quality job. The quality assurance Engineer shall co-ordinate all aspects of quality control, inspection, implementation of quality assurance

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	procedures laid down in Quality Plan and technical specification by BHEL. He shall fill up quality assurance log sheets / formats and submit to BHEL for joint inspection and acceptance. The contractor shall fill up, maintain & preserve the quality records in computerized media. TSGENCO/BHEL's authorized representative shall be given free access at all time to such quality related records etc. for inspection, review etc.
12.1	In case any civil works constructed by contractor fails due to faulty workmanship of the contractor then the contractor shall reconstruct the same his own cost without any financial implication to BHEL.
12.2	The contractor shall arrange for suitable quality assurance program to control all activities pertaining to the scope of work, as necessary. Such programs shall be outlined by the contractor and shall be finally accepted by BHEL. A quality assurance program of the contractor shall generally cover the following.
12.2.1	Organization Structure and qualification data for key Personnel of the contractor for the management and implementation of the proposed quality assurance program.
12.2.2	The procedure for source inspection, incoming raw material inspection, verification of material purchased etc
12.3	System for maintenance of records.
12.4	General requirements – quality assurance All materials, components and equipment covered under the specification shall be procured, manufactured, erected, commissioned and tested, as applicable, at all stages as per comprehensive quality assurance program. An indicative program for inspection /test, to be carried out by the contractor, for some of the major items is given in the respective technical specification.
12.5	Field quality plan will detail out the quality practices and procedures etc. to be followed by the contractor's site quality control organization, during various stages of site activities from receipt of material /equipment at site.
12.6	Casting and forgings used for construction shall be of tested quality. Details of results of chemical analysis, mechanical properties test result, as necessary, shall be furnished.

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12.7	All welding shall be carried out as per procedure drawn and qualified in accordance with the requirements of ASME Section- 1X/BS4870 or other international equivalent standard acceptable to BHEL/TSGENCO.
12.8	All welders etc employed on any part of the contract at contractors' work or at site shall be qualified as per ASME Section – IX or BS 4871 or equivalent international standard approved by BHEL/TSGENCO. Such qualification test shall be conducted in presence of BHEL/TSGENCO.
12.9	All non-destructive examinations (NDT) shall be carried out in accordance with approved FQP .
12.10	All the purchase specifications for the major bought out items list of which shall be drawn up by the contractor and finalized with BHEL/TSGENCO shall be furnished to BHEL for comments and approval before placement of orders.
12.11	BHEL/TSGENCO reserves the right to carry out quality audit and quality surveillance of the systems and procedures of contractor's quality management. Contractor shall provide all necessary assistance to enable BHEL/TSGENCO to carry out such audit.
12.12	Quality audit/approval of the results of test and inspection will not prejudice the right of BHEL /TSGENCO to reject an equipment service not giving the desired performance and shall not in no way limit the liabilities and responsibilities of the contractor in earning satisfactory performances of equipment/service as per specification.
12.13	Repair/rectification procedure to be adopted to make any job acceptable shall be subject to the approval of BHEL/TSGENCO.
13	PROJECT MANAGEMENT/ CONSTRUCTION MANAGEMENT
	To meet the need of construction management at site, contractor shall provide the following services within quoted/ accepted rates.
13.1	PLANNING & MONITORING
13.1.1	The bidder shall prepare detail construction schedule (L-3) as per completion dates given in this document. This schedule must include all milestone and key activities for each subsystems/ components in the areas of engineering (wherever applicable), procurement, manufacture (wherever applicable), excavation/ construction/ erection. This network must conform to the overall project schedule. The bidder should also ensure monitoring of these activities at least on weekly basis to start with and on daily basis whenever required by BHEL.
13.1.2	The bidder shall also prepare progress report indicating progress on key activities, management summary for critical activities, list of actions requiring attention of BHEL. This schedule is to be preferably made in MS PROJECTS, so that the same is compatible with BHEL's project management software.
13.1.4	The contractor's site office must have facilities of communications like Fax, E-mail, and telephone with STD facility within a month from LOI.
13.2	PROGRESS REPORTING
13.2.1	The bidder shall submit daily, weekly and monthly progress reports for work force, materials reports, consumables (gases/electrodes) report and other reports as per pro-forma considered necessary by the BHEL. In case of any failure on contractor's part to comply with this, BHEL may at its discretion, consider to withhold part payment against their RA bills.

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13.2.2	The progress report shall indicate the progress achieved against planned with reasons indicating delays, if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time, so that further works again proceed as per the original program and the slippages do not accumulate and effect the overall program.	
13.2.3	The daily work force reports shall clearly indicate the work force deployed, category-wise specifying also the activities in which they are engaged.	
13.2.4	Weekly progress review meetings will be held at site during which actual progress during the week vis-à-vis scheduled program shall be discussed or actions to be taken for achieving targets. For discussions, the contractor shall present program of subsequent week. The contractor shall constantly update/revise his work program to meet the overall requirement.	
13.2.5	Periodic progress reviews on the entire activities of execution in respect of supply and works in scope of bidder will be held once in a month at Nagpur/site. These meetings will be attended by reasonably higher officials of the contractor and will be used as a forum for discussing all areas where progress needs to be speeded up. The contractor shall be further responsible for ensuring that suitable steps are taken to meet various targets decided upon such meetings.	
13.2.6	During construction contractor shall take an average forty colour digital photograph / slides each month (not less than nine per week) of the works during progress.	
13.2.7	Successful bidder has to provide for electronic/ computerized storing and re-production/ printing/ plotting of various data, log sheets, protocols, measurements etc. These may be stored in CD (as per requirement) and handed over to BHEL as per requirement.	
13.3	SITE ORGANIZATION	
13.3.1	The contractor shall maintain a site organization of adequate strength in respect of manpower, construction machinery and other implements at all time for smooth execution of the contract headed by a competent construction manager for site operations with sufficient level of authority to take site decisions. The vendor will submit organization chart (showing the name of SITE-IN-CHARGE) with individual bio-data indicating various levels of experts to be posted for supervision in the fields of supervision and execution, quality, material management, planning, safety, etc. The organization shall be reinforced from time to time, as required to make up slippage (if any) from the schedule without any commercial implication to BHEL. The organization chart is to be submitted within 10 days from the date of LOI.	
13.3.2	Following (minimum) engineering manpower with power plant construction background to be deployed at site by the successful vendor for their day to day supervision etc.	
13.3.2.1	Qualified safety officers with assistants (exclusive for safety supervision for project jobs).	One no. officer (from start of work) One no. assistant (from start of work)
13.3.2.2	Site supervising engineer and supervisors for Civil and chimney shell work etc.	Minimum 3 no. engineer and 3 no. supervisors with two shift in charges during shell construction.
13.3.2.3	Engineer & Supervisors for quality	One Nos. Engineer (Civil) +One

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	inspection.	supervisor (Civil)
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13.3.2.4	Site supervising engineer and supervisors for Structural job.	Two nos Engineers +Two nos supervisors.
13.3.2.5	Engineer for Civil Laboratory	One no.
13.3.2.6	Material management, site enabling	One no.
13.3.3	Deputation of above man-power shall be jointly decided at site in line with construction schedule.	
13.3.4	Engineer/ supervisor for other functions like store & purchase, material management, planning, fin, administration etc are to be provided as per site requirement and not considered above.	
13.3.5	BHEL reserves the right to reject or approve the list of personnel proposed by the contractor.	
13.3.6	In addition to above, a well experienced qualified engineer to be designated, as 'Project Manager', shall be deployed by the contractor. Such engineer shall have adequate exposure on the job and shall remain fully involved in all planning activities, guidance etc to contractor's own team during the complete execution period of contract.	
13.3.7	No staff quarter shall be provided by BHEL. However, if customers quarters are spare able from BHEL/TSGENCO on rent basis as levied by owner, the same may be provided to contractors on back to back rental basis subject to availability and spare ability	
13.3.8	No borrow area for earth shall be arranged / provided by BHEL.	
13.3.9	The contractor shall solely be responsible for the safety, quality, & quantity of material after it is handed over and issued to contractor by the BHEL.	
13.3.10	The contractor shall solely be responsible for the safety, quality, & quantity of material after it is handed over and issued to contractor by the BHEL.	
13.4	The contractor should also submit to BHEL for approval a list of T&Ps along with their fitness certificates. The tools & tackles shall not be removed from site without written permission of BHEL.	
13.5	The contractor should also submit network programs for the erection of various items. These networks shall show the TSGENCO/ BHEL hold points, which have to be cleared by TSGENCO/ BHEL, or their authorized representatives before further erection can take place. These programs for the erection would clearly identify responsibilities of the contractor and TSGENCO/ BHEL. It is the responsibility of the contractor to get the Networks approved by BHEL within four weeks of the date of finalization of award of work/ placement of LOI.	
13.6	CONSTRUCTION MANAGEMENT	
13.6.1	Based on the approved program, the contractor shall submit a program of construction/ erection/ commissioning for the implementation considering round the clock working at site . These programs would be amplified showing start of erection and subsequent activities and shall form the basis for site execution and detail monitoring. The three monthly rolling program with the first month's program being tentative based on the site condition would be prepared based on these programs. The contractor shall also be involved along with TSGENCO / BHEL to tie up detailed resources mobilization plan over the period of the contract matching with the performance targets.	
13.6.2	The program would be jointly finalized by the site in-charge of the contractor	

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	with TSGENCO/ BHEL's project coordinator as well as the site-planning representative. The erection program will also identify sequential events matching financial turnover.
13.6.3	Theses network/Program must confirm to the overall requirement of the project schedule. The bidder should also ensure monitoring of these activities at least on weekly basis to start with and on daily basis whenever required by BHEL.
13.6.7	The contractor is liable to furnish all documentary evidences towards payment of Works Contract Tax as and when required by BHEL.
13.7	WORK & SAFETY REGULATIONS
13.7.1	The contractor shall ensure the safety of all workmen, materials and equipment either belonging to him or to others working at site. He shall observe safety rules and codes applied by the TSGENCO / BHEL at site without exception.
13.7.2	Passenger lift should have safety cage with multiple rope, i.e. with safety rope & limit switch.
13.7.4	Safety nets with hand railings must be provided on all both inside & outside hanging platform of slip-form equipment.
13.7.4	Emergency vehicle must be provided & kept separately as stand-by.
13.7.5	Non-conformity of safety rules and safety appliances will be viewed seriously and BHEL has right to impose fines on the contractor on each incident/each non-conformity as per SPECIAL CONDITIONS OF THE CONTRACT.
13.7.6	In case of imposition of any penalty on BHEL by customer TSGENCO for reasons attributable to the contractor, the same shall be deducted on Back to back basis.
13.7.7	The contractors shall employ necessary number of qualified, full time electricians/ electrical supervisors to maintain his temporary electrical installations
13.7.8	The contractor shall employ trained safety officer to supervise day to day safety aspects of the equipments and workmen, who will co-ordinate with BHEL/ TSGENCO's safety officer. In case of work being carried out through sub-contractors, sub-contractor's workmen/ employees will also be considered as the contractor's employees/ workmen for the above purpose.
13.7.9	The contractor shall not be entitled for any damages/ compensation for stoppage of work due to safety reasons above and the period of such stoppage of work will not be taken as an extension of time for completion of the facilities and will not be the ground for waiver of levy of penalty.
13.7.10	The contractor shall follow and comply with all safety rules of BHEL/ TSGENCO's, relevant provisions of applicable laws pertaining to the safety of workmen, employees plant and equipment as may be prescribed from time to time without any demur, protest or contest or reservation. In case of any inconformity between statutory requirement and Safety Rules of BHEL/ TSGENCO's referred above, the later shall be binding on contractor unless the statutory provisions are more stringent.
15.0	MATERIAL HANDLING (BHEL ISSUED MATERIAL)
15.1	Cement, reinforcement, earthing rods, MS Rod, structural steel (MS plates, ISMB, ANGLE, CHANNEL, Chequered plate, Stainless Steel Plate/liner) will be

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	issued free of cost by BHEL for use in the work covered in this contract.
15.2	Cement & reinforcement steel and structural steel will be issued to the contractor from BHEL/Customer's store about 3 Kms to 5 Kms away from plant premises, on weighment basis. Receipt from BHEL/Customer's stores, handling / transportation to work site, unloading etc. will be under the scope of work within his quoted rate.
15.3	Open land (free from encumbrance) shall be provided by BHEL on free of cost basis. The Contractor shall maintain one centralized fenced store cum bar bending yard (Area Approx. 70mx70m). Hard surfacing of this yard and all round drain shall be carried out by the contractor at your own cost within the accepted rate. Batching plant area shall be provided within plant premises and the contractor shall make use of the area for installation and operation of the Batching Plant at their own cost. The contractor shall make complete arrangement of necessary security personnel, to safeguard all such materials in custody. 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.
15.4	The contractor shall construct waterproof cement store for initial period (capacity minimum 1000 MT) 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.
15.5	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.
15.6	Clotting of cement and excessive rusting of steel must be avoided. In case, due to any cause attributable to the contractor, such clotting of and/or rusting of steel occur rendering the same unusable, then such quantity of cement /steel shall be recovered from the interim payment at the penal rate specified in the tender.
15.7	No material shall be issued to the contractor except as those indicated above i.e. cement and steel unless otherwise expressly provided for in the contract. Contractor will have to make his own arrangement at his own cost for procurement of any other material as required for the works and of such quality as acceptable to BHEL.
15.8	The contractor shall maintain proper store account for all the BHEL issued materials and shall give three copies of once in two months computerised reconciliation statement of such account to the BHEL.
15.9	The contractor shall solely be responsible for the safety & quality of material after it is handed over and issued to contractor by BHEL.
15.10	BHEL issued materials shall not under any circumstances taken out of the project site unless otherwise permitted by BHEL.
16.0	ISSUE OF MATERIALS
16.1	ISSUE OF CEMENT
16.1.1	Cement as received from the manufacturer/ stockiest will be issued free of cost to the contractor. The theoretical weight of each bag of cement for

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	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.	
16.1.2	The empty cement bags duly accounted for against issue shall be the property of the bidder and the same shall be disposed by the bidder as per statutory regulation prevailing in the project.	
16.2	ISSUE OF STEEL	
16.2.1	The steel shall be issued to the contractor free of cost on the following basis.	
16.2.1.1	Structural steel (MS Plate, ISMB, ANGLE, CHANNEL, Stainless Steel Plate / Liner, chequered Plate and EOT Crane Rails) –	Weighment basis (unit – MT).
16.2.1.2	Reinforcement steel (TMT), earthing MS Rod	Weighment basis (unit – MT).
16.2.2	All the steel (structural steel (MS Plate, ISMB, CHANNEL, ANGLE, Stainless Steel Plate / Liner, chequered Plate and EOT Crane Rails), reinforcement (TMT), earthing MS Rod, issued by the 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. The measurement for payment as well as for accounting shall be based on the sectional weights as indicated in the following IS specifications. IS: 808-1564 Beams, Channels and Angles IS: 1730-1961 Plates Reinforcements Fe-500 confirming to IS: 1786. or grade-1 of IS:432 (part-I)	
16.2.3	In case any such sectional weights are not available in the above documents, the manufacturer recommendation shall be binding.	
16.2.4	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 nonstandard length will be entertained.	
16.2.5	In case MS flats as required in the fabrication of structures are not available, the contractor shall cut such width out of the available MS plates to make flats at no extra cost till such material is available and procured by BHEL.	
16.3	The contractor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL/TSGENCO stores. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the contractor from BHEL/ TSGENCO stores.	
16.4	The contractor shall submit to the engineer, a statement indicating estimated quantity of cement and steel required at least three months in advance . In addition, the contractor shall also furnish the estimated requirement of cement and steel during a month by the third week of the previous month indicating his requirement.	
	Issue of materials	Max. Qty in contractor's store.
	Reinforcement steel & Earthing rod 40mm. MS Round.	Requirement of one month
	Structural steel	Requirement of one month

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	Cement	Requirement of one month
16.5	The contractors have to ensure that no lamination materials are taken over by them from BHEL. Fabrication wastage, if any due to above, shall not be compensated by BHEL.	
16.6	The contractor have to note that all fasteners like MS/HT/HSFG bolts/nuts, lock nuts, washers etc shall be supplied by the contractor as per applicable item of BOQ-cum Rate schedule of tender.	
16.7	Bidder to note that cement and steel required for his enabling job like store/site office etc shall be arranged at his own cost. All TG staging material shall be arranged by the contractor at your own cost. The contractor shall do the design for its structure just immediately after receipt of TG deck drawing and obtain approval from BHEL.	
17.0	RETURN OF MATERIALS	
17.1	RETURN OF CEMENT	
17.1.1	Sealed cement bags remaining unused and in perfectly good condition at the time of completion or termination of the contract shall be returned promptly, (within 15 days from assessment) if BHEL/ Engineer is satisfied of the physical condition of the cement. Return of such cement to the project stores/ place as identified within the project area by Engineer/ BHEL will not be entitled to handling and incidental charges. Surplus sealed and good conditioned cement bags will be taken back on weighment basis.	
17.2	RETURN OF STEEL INCLUDING SCRAP	
17.2.1	All surplus steel and all wastage materials will be taken back on weighment basis.	
17.2.2	Surplus, unused and un-tampered steel shall be sorted section-wise and returned separately for a place directed by BHEL/Engineer within the project area; Return of such materials will not be entitled to any handling and incidental charges.	
	Scrap & serviceable material is further defined as below.	
	Structural steel of length above 2 M except M.S. Plate shall be considered as serviceable materials provided the material is good and in acceptable condition. Structural steel less than 2 M shall be treated as scrap.	
	Structural Plates having both sides greater than 1 M or if any side is less than 1 M but greater than 0.5 M and the total area is equal or greater than 2 Sq. Meter shall be considered as serviceable. Structural Plates having both sides less 0.5 M and the total area is less than 2 Sq. Meter shall be considered as scrap.	
	All pipes measuring 2 M and above in length shall be treated as serviceable materials provided they are in good and acceptable condition. Pipe in less than 2 M length shall be treated as scrap	
	All TMT measuring 3 M and above in length shall be treated as serviceable material provided they are in good and acceptable condition. TMT less than 3 M length shall be treated as scrap.	
17.2.3	All wastage/ scrap (including wastage, unusable scrap) shall be returned to the stores on weighment basis and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any additional cost	

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	due handling and transportation and incidental charge.		
17.2.4	Scrap for reinforcement steel and structural steel shall be returned separately.		
18.0	CEMENT AND STEEL CONSUMPTION AND WASTAGE		
18.1	CEMENT CONSUMPTION		
18.1.1	The theoretical consumption of cement shall be based on the following.		
18.1.1.1	For design mix concrete as per approved design mix.		
18.1.1.2	For nominal mix concrete work, as per minimum cement as specified or as approved by Engineer-in-charge.		
18.1.2	For item of works, where volume mix is permitted in writing by the BHEL, for masonry works, plaster other miscellaneous items, the cement consumption shall be governed by the "Statement of Cement Consumption" attached to the Delhi schedule of Rates of CPWD DSR-2014 unless otherwise specified in the specifications or the drawing of contract or mutually agreed by Engineer-in-charge and contractor.		
18.1.3	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).		
18.2	CEMENT WASTAGE		
18.2.1	Allowable wastage: One and half percent (+1.5%) of theoretical consumption of cement unless specified otherwise in the technical specification.		
18.2.2	For any material issued by BHEL to the contractor free of cost, and which is not accounted for by the contractor to BHEL, then recovery for such material shall be effected at penal rates.		
18.2.3	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
18.3	REINFORCEMENT STEEL & MS ROUND CONSUMPTION		
18.3.1	The theoretical consumption of various diameters of reinforcement and MS round 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.		
18.3.2	Actual consumption = Issue – Surplus.		
18.3.3	Surplus = Un-tampered and unused, unused quantity of serviceable steel returned by the contractor to BHEL store along-with relevant documents.		
18.3.4	Wastage = Actual consumption – Theoretical consumption.		
18.4	REINFORCEMENT STEEL & MS ROUND WASTAGE		
18.4.1	Allowable wastage: (+3%) of the theoretical consumption shall be		

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	considered as allowable wastage.		
18.4.2	Wastage and scrap shall be as per actual weightment basis.		
18.4.3	Sl no	Reinforcement steel	Basis of issue & penal recovery
	R-1	Theoretical consumption (without considering wastage and scrap or loss)	Free
	R-2	Wastage limited to plus THREE percent (+3%) of aforesaid theoretical consumption (R-1) towards allowable wastage.	Free
	R-3	Wastage beyond THREE percent (+3%) of the theoretical consumption above (R-1).	Penal rate
18.5	STRUCTURAL STEEL CONSUMPTION		
	Weights shall be calculated considering the sectional weights as per Indian standard as mentioned in relevant clause. No extra shall be 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.		
18.5.2	Actual consumption = Issue – Surplus.		
18.5.3	Surplus = Un-tampered and unused, unused quantity of serviceable of steel returned by the contractor to BHEL store along-with relevant documents.		
18.5.4	Wastage = Actual consumption – Theoretical consumption.		
18.6	STRUCTURAL STEEL WASTAGE		
18.6.1	Allowable wastage: 4% (four percent) of the theoretical consumption shall be considered. Wastage is further classified as cut pieces and scrap measured as per actual weightment basis. Invisible wastage (loss of materials due to gas cutting, straightening of edges etc) shall be limited to 0.5% (zero point five percent) of theoretical consumption and shall be considered for reconciliation purposes only. But this invisible wastage shall be considered to be included in allowable wastage (i.e. four percent).		
18.6.2	Sl. No.	Structural steel and SS liner	Basis of issue & penal recovery
	S-1	Theoretical consumption (without considering any wastage, scrap or loss) as per specification & drg.	Free
	S-2	Wastage limited to plus four percent (+4%) of the aforesaid theoretical consumption (S-1) towards allowable wastage.	Free
	S-3	Wastage beyond four percent (4%) of the aforesaid theoretical consumption (S-1).	Penal rate.
18.7	All wastage reinforcement, MS round and structural steel shall be returned to BHEL.		
19.0	RECONCILIATION OF BHEL ISSUED MATERIALS		
19.1	The contractor shall submit a reconciliation statement of cement and steel issued to him, once in two months. The same may be submitted along with RA Bill.		
19.2	The contractor shall properly account for the material issued to him as		

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	specified herein to the satisfaction of BHEL certifying that the balance material are available with contractor's custody at site.	
19.3	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 from RA bill.	
19.4	The approved drawings/ bar bending schedules are to be considered for the purpose of reconciliation of materials.	
20.0	RECOVERY OF MATERIAL	
20.1	If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly RA bill at the penal rate stipulated below.	
20.2	PENAL RATE OF MATERIALS	
	ITEMS	Penal rate in Rs.
20.2.1	Cement (OPC/ PPC/ PSC).	6500/- per MT
20.2.2	Reinforcement steel and MS rod etc.	55,000/- per MT
20.2.3	Stainless Steel Plate / Liner	6,00,000/- per MT
20.2.4	Structural steel materials.	
20.2.4.1	Chqd Plates/ MS plates	60,000/- per MT
20.2.4.2	Flats/beams/channel/angels etc. (Rolled Sections)	60,000/- per MT
20.0	CONSTRUCTION OF TEMPORARY OFFICE, STORES ETC	
20.1	The contractor shall arrange at his own cost cleaning of area allotted, construction of his temporary office, stores, cement godown etc. and also the watch and ward of all the above. Materials required for the same shall be provided by contractor at his own cost.	
21.0	The quantities of the various items mentioned in the respective Price schedules, Volume-II are approximate, based on very preliminary information and may vary to any extent or to be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of the work executed under any part of this contract including extra items, if any, but excluding any price variation, remains within +/- 15 % (plus/minus fifteen percent) of the awarded price (as per LOI / WO).	
	The unit rate quoted for various items of BOQ shall include all the stipulation mentioned in the tender documents and nothing extra over BOQ rates shall be payable.	
22	Contractor shall submit detail structural fabrication drawings within 15 days from the release of engineering drawings by BHEL. Vendor to ensure checking of detail drawing and obtaining approval from PEM through the approved agency within 15 days from detail fabrication drawing is submitted. Vendor has to ensure availability of approved drawing at site immediately after the approval.	
23.0	Insurance:	
23.1	BHEL shall arrange comprehensive MCE (marine cum erection) Insurance Policy for total project supply & services including balance of plant package covering transit risks & loss, destruction or damage during handling at site, storage, civil works, erection, testing and commissioning/ completion up to	

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Chapter - II: Scope of Works and Technical Specifications

	trial operation completion of each unit including theft, sabotage, fire, lightning and other natural calamities.
23.2	Contractor shall timely intimate despatches to the underwriter. The name of the underwriter and Policy No. shall be intimated in due course of time.
23.3	The contractor shall be responsible for timely submission of loss/damage/theft to the underwriter, assistance in lodging & settlement of claim for losses/damages/ theft/ lodging of FIR with police. Any consequential loss arising out of non-compliance of this stipulation will be borne by contractor.
23.4	It is the entire responsibility of the contractor to insure his workmen against accident and injury while at work as required by the relevant rules and to pay compensation, if any, to their workmen as per workmen's compensation act. The contractor has also to insure his staff against accident/injury. The contractor has to take insurance cover for his tools and plants, assets etc.
23.5	The contractor will take necessary precautions/ due care to protect the material at Project site, while in his custody from any damage/loss till the same is handed over to BHEL/ TSGENCO at project site. For lodging/ processing of insurance claim the contractor will submit necessary documents. BHEL will reserve the right to recover the loss from the contractor as detailed below in case the damage/loss is due to negligence/carelessness on the part of the contractor. In case of theft of material under contractor's custody, the same shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL/ TSGENCO for taking up with insurance. However this will not relieve the contractor of his contractual obligation for the materials in his custody.
23.6	In case the claim is summarily rejected by the underwriters due to WILFUL NEGLIGENCE of the contractor and contractor's failure to replenish the items lost/ damaged, the entire cost of repair/replacement will be recovered from the contractor.
23.7	Other conditions of Insurance shall be as per relevant clause of GCC.
25.0	HIERARCHY In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows
25.1	Statutory Regulations
25.2	TSGENCO specifications
25.3	Items in Schedule of quantities
25.4	IS/BS standards
25.5	BHEL's standard specification (with prior approval of Engineer-in-charge).

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Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	ESTABLISHMENT			
3.1.1	FOR CONSTRUCTION PURPOSE:			
a	Open space for office (as per availability)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipment, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Firefighting equipment like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
a	Open space for labour colony (as per availability)		Yes	Contractor has to make his own arrangements for space, shelter and transportation of labors as per their requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	Electricity			

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

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
a	Single point source of 440 V	Yes		Free. At a distance of 1000m from site (distance is only estimated, It may vary up to any extent depending on site condition). In case of power failure due to maintenance or any reason, contractor shall have to arrange the same at his own expenses through DG set etc. to ensure progress of work.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	Electricity for the office, stores, canteen etc of the bidder (to be specified whether chargeable or free)			
a	Single point source	Yes		Free at an available distance. In case of non-availability of power due to any reason from customer point, contractor shall have to arrange the same at his own expenses through DG set.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc		Yes	Contractor has to make his own arrangement.

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

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3.0	WATER SUPPLY			
3.3.1	For construction purposes: (to be specified whether chargeable or free)			
a	Making the water available at single point	Yes		Free at distance of 1000M from site. Distance is only estimated, It may vary up to any extent depending on site condition). In Case Of non-availability of construction water due to Maintenance or any reason from customer point, contractor shall have to arrange construction water at his own expenses.
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	Water supply for bidder's office, stores, canteen etc			
a	Making the water available at single point	Yes		Free at an available distance. In case of non-availability of power due to any reason from customer point, contractor shall have to arrange the same at his own expenses through DG set.

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

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	Water supply for Living Purpose			Contractor has to make his own arrangement.
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.4.0	LIGHTING			Contractor has to make his own arrangement.
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3 At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			Contractor has to make his own arrangement.
a	Telephone, fax, internet, intranet, e-mail etc.		Yes	
3.6.0	COMPRESSED AIR wherever required for the work		Yes	Contractor has to make his own arrangement.
3.7.0	Demobilization of all the above facilities		Yes	Contractor has to make his own arrangement.
3.8.0	TRANSPORTATION			Contractor has to make his own arrangement.
a	For site personnel of the bidder		Yes	

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

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

Sl.No.	Description PART II	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.0	ERECTION FACILITIES			
3.9.1	Engineering works for construction:			NOT APPLICABLE
a	Providing the erection/constructions drawings for all the equipment covered under this scope	Yes		For Details Pl refer Chapter-IX-
b	Drawings for construction methods	Yes	Yes	In consultation with BHEL
c	As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes		Yes	Changes are to be marked in drawing & handover to BHEL on completion of work.
d	Shipping lists etc for reference and planning the activities			NOT APPLICABLE
e	Preparation of site erection schedules and other input requirements		Yes	In consultation with BHEL
f	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments		Yes	In consultation with BHEL
g	Weekly erection schedules based on Sl No. e		Yes	In consultation with BHEL
h	Daily erection / work plan based on Sl No. g		Yes	In consultation with BHEL
i	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule.		Yes	
j	Preparation of preassembly bay		Yes	

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV : T&P's and MMEs to be deployed by Contractor

A: TOOLS & PLANTS (TO BE PROVIDED BY CONTRACTOR)

Tentative list of T&P to be deployed by contractor for successful completion of work is detailed below.

Following Major T&Ps to be arranged by contractor within the time as indicated against each package

SL. No.	Major T&P items	Broad Mobilizing time from start of work
1	2 No. Hydraulic Excavator/Poelain with 6 nos. dumper	Within a week time
2	1 no. vibromax/earth compactor	Within 60 days
3	1 no. air compressor	As per site requirement
4	2 no 18/20 T crawler crane / 40 T Mobile Crane	Within 90 days.
5	2 no hydra (10/ 12 T capacity)	Within 90 days.
6	8 nos welding rectifier / machine	As per requirement
7	Motorized MS plate bending machine along with angle bending device – 1 no.	Within 90 days
8	One nos. Portable/stationary automatic batching plant with printing facility (approx. 30 Cum/Hr) – to be commissioned at site.	Within 45 days.
9	2 nos transit mixer (6 M3 capacity)	Within 60 days.
10	1 no concrete pump (20 cum/ hr min capacity & lift 70M)	Within 60 days.
11	5 nos self-priming dewatering pump 2-5 HP (diesel/ electric)	Within 30 days.
12	1 nos Multi stage high lift water Pump (for curing) (lifting height shall be 300 metre). One shall be working and other will be stand by.	As per requirement.
13	1 no pneumatic hammer.	As per site requirement
14	2 nos reinforcement bending machine	Within 30 days
15	2 nos reinforcement cutting machine	Within 30 days
16	1 no compression testing machine (200 T cap)	Within 60 days.
17	Civil laboratory equipment as per list attached in ANNEX 'A'	Within 60 days.
18	Power winch – 3 T - 2 nos for structural erection.	As per requirement

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV : T&P's and MMEs to be deployed by Contractor

19	Power winch – 5 T - 1no for structural erection.	As per requirement
20	Power winch – 10 T - 2 nos for structural erection	As per requirement
21	1 no total station	Within 20 days.
22	1 no theodolite 1 second accuracy	As per requirement.
23	2 nos auto level & staff	Within 20 days.
24	DG set 250 KVA or more Min 1 No (the quantity may increase as per requirement)	As per requirement
25	Concrete cube moulds – Adequate no.	Within 60 days
26	Slip/ Inter form equipment set including hydraulic spare pump, 10% spare jack, epoxy painted MS shutter plate, materials and passenger hoist with safety block (safety devices), safety ropes etc complete - 1 set.	As per site requirement and discussion with BHEL
27	Strand Jack/winch with safety device lifting capacity 15 T	As per site requirement and discussion with BHEL
28	Hanging platforms with safety device (two nos.)	As per site requirement and discussion with BHEL
29	1 no trailer – 20T,	Within 90 days.
30	1 no drinking water tank – 3000 lit.	Within 30 days.
31	1 no ultra-sonography testing machine for structural work.	Within 120 days.
32	1 no radiography source	whenever required
33	Radio set One No.- VHF/UHF	Within 120 days.

T&P shown in the above mentioned list are tentative based on planned progress requirement.

Actual Mobilization schedule , based on front availability , drawings and material availability at site is to reviewed and mutually agreed with BHEL site periodically from time to time for mobilization of major T&Ps, and the same have to be adhered to and no change will be permitted without written approval of BHEL site.

Further requirement will be reviewed time to time at site and contractor will provide additional T&P/ equipments to ensure completion of entire work within schedule time without any financial implication to BHEL. All other T&Ps shall be provided by the contractor without any extra cost to BHEL. Vendor will give advance intimation & certification regarding capacity etc prior to dispatch of heavy equipment.

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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV : T&P's and MMEs to be deployed by Contractor

In the event of non-mobilization of any T&P by the successful bidder and as a result progress of work suffers, BHEL reserves the right to deduct suitable amount from the dues of the bidder, with assigning reasons thereof.

CIVIL LABORATORY

Contractor shall establish and maintain civil laboratory with necessary equipment (as per Annexure-I) for conducting relevant site tests, as required.

B: MEASURING AND MONITORING DEVICES (MMD):

01. During execution of the job, it is very essential that proper and adequate inspection should be made constantly by the contractor to maintain accuracy of testing. During the important Lab. Test, BHEL Engineer may visit the Contractor's laboratory for verification of test. Contractor shall allow him to have access in the laboratory & interact with testing Engineers & extend all the co-operation.
02. All the MMDs (Measuring and monitoring devices) & testing equipments including Laboratory equipments deployed on the job shall have the traceability as per National & International standard.

NOTE:

It may be noted that the list is not exhaustive and is only for general guidance. The contractor is required to provide all necessary T&P (other than those specified to be provided by BHEL, if any) measuring (calibrated) instruments & handling equipments to maintain work progress for timely completion of total work as per contract. In case of project requirement, some activities may have to pre-pone. In such cases the contractor may have to deploy additional T&P. Quoted rate shall be inclusive of such emerging requirements.

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI : Time Schedule

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

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

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

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period **of 18 (Eighteen) months** in a manner required by BHEL to match with the Milestone of Boiler Light Up for Units # 1, 2, 3 & 4.

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

THE OVERALL CONTRACT PERIOD SHALL be of 18 (Eighteen) months.

6.1.2

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

Contractor shall note that individual milestones as above shall be achieved as per schedule furnished above.

The contractor shall reach site and establish his site office and mobilize necessary resources well in advance of actual commencement of the contract time schedule as per directions of BHEL engineer.

DATE OF START OF EXCAVATION OF CHIMNEY RAFT WILL BE RECKONED AS THE DATE OF START OF WORK FOR THIS CONTRACT.

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Chapter – VI : Time Schedule

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

Sl. No.	Activity	Period From Date of Start (DOS) Assuming date of start.
01	Completion of full mobilisation, Excavation, PCC, raft foundation completion, slip form assembly & erection completion.	From 0 To End of 5 th Month
02	Shell concreting (75%- approx.) to be completed, prep. of detailed Fab. Drawings for floor beams, fabrication of floor beams & stair case (60%), fabrication of flue liner (30%)	from 6 th to 10 th months
03	Balance shell concreting (25%) to be completed, fabrication of remaining floor beam & stair case (40%), fabrication of balance mild steel flue liner (70%), and erection of all floor beam & staircase & Hand Rails 100% completion.	from 11 th to 14 th month
04	Completion of erection of mild steel flue liner and insulation work	By the end of 16 th month.
05	Completion of all electrical & earthing systems including all balance misc. works viz Final painting, flooring, paving, drains etc. & handing over to BHEL/TSGENCO.	18 th months

6.1.3 CERTIFICATE TOWARDS COMPLETION

The work under the scope of the contractor shall be deemed to have been completed in all respects only when so certified by BHEL/ TSGENCO. The decision of BHEL in this regard shall be final and binding on the contractor.

6.1.4 EXTENSION OF TIME FOR COMPLETION

1. If the completion of work as detailed in the scope of work gets delayed beyond the contract/ completion period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the contract.
2. Based on the reviews jointly signed, the works balance at the end of original contract period less the backlog attributable to the contractor shall be quantified, and the number of months of 'Time extension' required for completion of the same shall be jointly worked out. Within this period of 'Time extension', the contractor is bound to complete the portion of backlog attributable to the contractor. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.
3. However if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/ LD for the

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Chapter – VI : Time Schedule

delays attributable to the contractor, in addition to any other actions BHEL may wish to take at the risk and cost of contractor.

4. A joint program shall be drawn for the balance amount of work to be completed during the period of 'Time Extension', along with matching resources to be deployed by the contractor as per specified format. Review of the program and record of shortfall shall be done.
5. During the period of 'Time extension', contractor shall maintain their resources as per mutually agreed program.
6. At the end of total work completion as certified by BHEL engineer, and upon analysis of the total delay, the portion of time extensions attributable to (i) Contractor, (ii) Force majeure conditions, and (iii) BHEL, shall be worked out and shall be considered to be exhausted in the same order. The total period of time extensions shall be the sum of (i), (ii) and (iii) above and shall be equal to period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/ levied for the portion of time extensions attributable to contractor and recoverable from the dues payable to the contractor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: TERMS OF PAYMENT

7.00 TERMS OF PAYMENT

7.0.1

The contractor shall submit his monthly on account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas from the 25th of previous calendar month to 24th of the current month.

7.0.2

General conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.

7.0.3

Release of payment in each running bill will be restricted to **95% of the value of work admitted**, as per the percentage break-up for the stage of work completion stipulated vide clauses hereinafter.

The 5% retention amount shall be released as per GCC clause no. 2.22. The workmanship guarantee period for this contract shall be **12 months from the date of completion** of entire work as certified by BHEL

7.0.4

The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.

7.0.5

BHEL will release payment through **Electronic Fund Transfer (EFT)/RTGS**. In order to implement this system, the following details are to be furnished by the contractor pertaining to his bank accounts where proceeds will be transferred through **BHEL's banker**:

Name of the Company

Name of Bank

Name of Bank Branch

City/Place

Account Number

Account type

IFSC code of the Bank Branch

MICR Code of the Bank Branch

BHEL May Also Choose To Release Payment By Other Alternative Modes As Suitable.

7.0.6 Progressive Payment For Civil

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

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Chapter – VII: TERMS OF PAYMENT

7.0.7 **Civil Work**

100% of Item Rate on Pro-Rata Basis against Monthly RA Bills.

The RA bill payment shall be made as per Clause no 10.0 of Chapter –X of SCC and as per Clause No: 2.23 of GCC

7.0.8 **Extra/Additional Items Of Work:-**

It shall be as per Cl. 2.15.7 of General Conditions of Contract.

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Chapter-VIII: Taxes and Other Duties

TAXES, DUTIES, LEVIES

8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 03 dated 09/04/2013)

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

8.1.1

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

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

8.1.2 Service Tax & Cess on Service Tax

Contractor's price/rates shall be exclusive of Service Tax and Cess on Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and pay the same to the concerned tax authorities, such applicable amount will be paid by BHEL at the prevailing Service Tax Rate (presently 12.36 %) on the admitted bill value.

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

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

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

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

8.1.3 VAT (Sales Tax /WCT)

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

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

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Chapter-VIII: Taxes and Other Duties

basis. Contractor shall also be required to furnish to BHEL necessary proof of VAT remittance on monthly basis.

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

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

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

8.2 — 'Enabling Works'

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

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

8.3 New Taxes/Levies

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

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

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

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Chapter – IX: Any Other Special Requirements

FOLLOWING DRAWINGS AND TECHNICAL SPECIFICATIONS ARE ENCLOSED WITH THE TENDER AND ARE A PART OF THIS SPECIFICATION:-

Sl. No	Description	Specification number
1	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME –II B SECTION-C1
2	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME –II B SECTION-D
3	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME –II B SECTION-D
4	General Arrangement Drawing of chimney.	PE-DG-411-620-
5	GEO TECHNICAL LAB REPORT FOR RCC CHIMNEY	

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CHAPTER X –Appendix

Annexure A: LIST OF CIVIL LAB EQUIPMENTS

ANNEXURE- A LIST OF EQUIPMENTS FOR CIVIL SITE LABORATORY				
CONCRETE TESTING EQUIPMENT				
SL NO.	NAME OF TEST	NAME OF EQUIPMENT	SIZE OF EQUIPMENT	IS REF.
1	Initial & final setting time, Consistency of cement	Vicat Apparatus with desk pot	Standard	IS 5513
2	Shrinkage of cement, Auto Clave Test	Le Chatelier's apparatus Auto Clave Equipment	Standard	IS 5514
3	Abrasion value test	Los Angles 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 guage	Standard	IS 2386
8	Bulk density, voids and bulking apparatus	Measuring cylinders	3, 5,10 & 15 liters cylinders	
9	Concrete Compressive test	Digital Compressive Testing Machine with 2000 KN capacity.	2000KN capacity	IS 2505
10	Cement mortar cube casting	Mortor Cube mould	70.6 x 70.6 x 70.6 mm, minimum 06 sets desired.	IS 10086
11	Concrete Cube casting	Concrete Cube Mould	150x150x150mm, minimum 20 sets desired considering TG Raft major concreting activity.	IS 10086
12	Workability of concrete	Slump cone	Standard, atleast 04 nos	IS 456
13	Specific gravity of aggregates	Pycnometer	Standard, atleast 02 nos	IS 383
14	Cement mortar cube vibrating	Motorised vibration machine for cement testing	Standard	IS 4031

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15	Course aggregate Sieve analysis (Concrete & Road Works)	Sieve set	450mm dia GI Frames Size: 125 mm, 90 mm, 75 mm, 63 mm, 53 mm, 40 mm, 20 mm, 16 mm, 12.5 mm, 10 mm, 4.75 mm, Pan and cover	IS 383
16	Fine aggregate sieve analysis	Sieve set	200 mm dia Brass sieves; Size 4.75 mm, 2.36 mm, 1.18 mm 600 micron, 300 micron, 150 micron, 75 micron, 75 micron, Pan and cover	IS 383
17	Seive Shaker	Motorised Sieve shaker	Mfg. Catalogue	
18	Silt content check	Sand silt content beaker	Standard	
19	Ultrasonic pulse velocity test	UPV apparatus for concrete	Standard	
Soil Testing Equipment (Levelling & Grading)				
1	Liquid limit test	Liquid limit apparatus	Standard	IS 2720
2	Core Cutter test	Core cutter apparatus	Rammer, 6 nos 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, atleast 04 nos	IS 2720
Process Control Accessories				
1	Hot air oven	Temperature range 50° C to 300° C	600x600x600mm (min.size)	
2	Electronic balance	3 nos	600gx0.01g, 10g and 50 kg	
3	Physical balance	5 kg capacity	Weights upto 5 kg	
4	Thermometer	Temperature range 0° C to 150° C	Digital	
5	Poker Thermometer (Concrete Road)	Temperature range 0° C to 50° C & 150° C	02 nos each required	
6	Measuring jars	2 nos set of each size	100ml, 200ml, 500ml & 1000 ml	
7	Gauging trowlers	4 nos	100mm & 200 mm with wooden handle	

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8	Spatula	2 nos each size	100mm & 200 mm with long blade wooden handle	
9	Stainless steel scoop	2 nos each	2 kg and 5 kg	
10	Vernier calipers	2 nos each	12" and 6" Sizes	
11	Digital pH meter	01 nos	.01 mm least count	
12	Digital micrometer	01 nos	0.01 mm least count	
13	Digital paint thickness meter for steel	02 nos	500 micron Range	
14	GI tray	02 nos each	600x450x50mm, 450x300x40mm, 300x250x40mm	
15	Electric mortar mixer	01 nos	0.25 CUM capacity	
16	Rebound hammer test	01 nos	Digital Rebound hammer	IS 13311
17	Screw Gauge	02 nos	0.1 mm-10mm, Least count 0.05	
18	Digital paint thickness meter for masanory/concrete painting measurement	02 nos	150 micron range	