

TENDER SPECIFICATIONS

Sl. No.	E- TENDER SPECIFICATION NUMBER
1	BHE/PW/PUR/MANUT-BAL CHIMNEY-U3 U4/2599

For

Balance Works in 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 Units # 3 & 4 at 4X270 MW Bhadradi TPS.

VOLUME – I

TECHNICAL BID

THIS TENDER SPECIFICATION CONSISTS OF:

Notice Inviting Tender	
Volume-IA	Technical Conditions of Contract
Volume-IB	Special conditions of Contract
Volume-IC	General conditions of Contract
Volume-ID	Forms & Procedures
Volume-IE	TECHNICAL SPECIFICATIONS & Drawings
Volume II	Price Bid



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

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I-B	Special Conditions of Contract	Part of Vol-I-BCD-2599
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2599

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



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NOTICE INVITING E-TENDER (NIT)

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

To,

Dear Sir/Madam,

Sub : NOTICE INVITING E-TENDER

Sealed offer(s) in two part bid system (National competitive bidding (NCB) or International Competitive Bidding (ICB) are invited from reputed & experienced bidder(s) (meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-1) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

1.0 Salient Features of NIT

S No.	ISSUE	DESCRIPTION	
i	E-TENDER NUMBER	BHE/PW/PUR/MANUT-BAL CHIMNEY-U3 U4/2599	
ii	Broad Scope of job	Balance Works in 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 Units # 3 & 4 at 4X270 MW Bhadradari TPS.	
iii	DETAILS OF TENDER DOCUMENT		
A	Volume-IA	Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc.	Applicable
B	Volume-IB	Special Conditions of Contract (SCC)	Applicable
C	Volume-IC	General Conditions of Contract (GCC)	Applicable
D	Volume-ID	Forms and Procedures	Applicable
E	Volume-IE	TECHNICAL SPECIFICATIONS & Drawings	Applicable
F	Volume-II	Price Bid as specified in E-Procurement Portal	Applicable
iv	Issue of Tender Documents	Tender documents will be available for downloading from BHEL website (www.bhel.com) or e-procurement portal (https://eprocurebhel.co.in) as per schedule below: Start: 12/07/2022, Time: 18:00 Closes: 22/07/2022, Time: 11:00 Brief information of the tenders shall also be available at central public procurement portal. (https://eprocure.gov.in/epublish/app)	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 22/07/2022, Time: 11.00 Hrs a. Place: on E-Tender Portal https://eprocurebhel.co.in	Applicable
vi	OPENING OF TENDER (Techno-Commercial Bid)	Date: 22/07/2022, Time: 17.00 Hrs Notes:	Applicable

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S No.	ISSUE	DESCRIPTION	
		(1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender. For e-Tender, Bidder may witness the opening of tender through e-Procurement portal only.	
vii	EMD AMOUNT	₹12,40,000/- (Rupees Twelve Lakhs Forty Thousand) Important Note: Bidders kindly to take note that EMD (Earnest Money Deposit) shall be furnished by MSE bidders as well, as per the amount and procedure indicated in the NIT/GCC.	Applicable
viii	COST OF TENDER	Free	
ix	LAST DATE FOR SEEKING CLARIFICATION	One day before due date of offer submission. Along with soft version also, addressing to undersigned & to others as per contact address given below: i. Name: R M Malhotra Designation: GM Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Phone: Landline: +91-712-2858-633 Email : rmalhotra@bhel.in Fax: +91-712-2858600 ii. Name: Kamlesh Kumar Designation: DGM Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Email : kamleshbhel@bhel.in ; iii. Name: Shubhangi Tembhurne Designation: Dy Manager Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Phone: Land Line: +91-712-2858742 Email : shubh@bhel.in; Fax: +91-712-2858600	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	-	Not Applicable
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Sh Virendra Bahadur Singh, IPS (Retd.) and Sh. Arun Chandra Verma, IPS (Retd.)	Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be	

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S No.	ISSUE	DESCRIPTION
		hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendum), Central Public Procurement portal (https://eprocure.gov.in/epublish/app) & on e-tender portal https://eprocurebhel.co.in and not in the newspapers. Bidders to keep themselves updated with all such information.

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed digitally using Class III DSC & uploaded in E-Procurement Portal, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**
- 3.0 Not Used
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD as per clause 1.9 of General Conditions of Contract.

For Electronic Fund Transfer the details are as below:-

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

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

5.0 Procedure for Submission of Tenders:

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

Documents Comprising the e-Tender

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

1. Technical Tender (UN priced Tender)

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

- Earnest Money Deposit (EMD) furnished in accordance with NIT Clause 4.0. ~~Alternatively, documentary evidence for claiming exemption as per clause 2.9 of NIT.~~
- Technical Bid (without indicating any prices).

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2. Price Bid:

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

DO NOT'S

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

Digital Signing of e-Tender

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

The Requirement:

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

BHEL has finalized the e-procurement service Provider:-

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

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

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

0120-4001 002

0120-4200 462

0120-4001 005

0120-6277 787

1. Peter Raj, NIC, Ph: 9942069052

Email Support: support-eproc@nic.in

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

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

The contact details of the DSC certifying authority:-

please refer <http://www.mca.gov.in/> → MCA SERVICES → DSC SERVICES

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

Procedure for Submission of Tenders (To be used in case of Paper bid only): The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:

1. PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
2. PART-II (Price Bid) in sealed and superscribed envelope (ENVELOPE-III)
3. One set of tender documents shall be retained by the bidder for their reference

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

Sl. no.	Description	Remarks
	Part-I A	
	<u>ENVELOPE – I superscribed as:</u> PART-I (TECHNO-COMMERCIAL BID) TENDER NO:- NAME OF WORK:- PROJECT:- DUE DATE OF SUBMISSION:- <u>CONTAINING THE FOLLOWING:-</u>	
*—	Covering letter/Offer forwarding letter of Tenderer.	
*—	Duly filled in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. <u>Note:</u> 1) 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. 2) 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	
*—	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.	
*—	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/Errata etc. pertinent to this NIT.	
*—	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
*—	Duly filled in annexures, formats etc. as required under this Tender Specification/NIT	
*—	Notice inviting Tender (NIT)	

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•—	Volume — I A : <u>Technical Conditions of Contract (TCC)</u> consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc.	
•—	Volume — I B : <u>Special Conditions of Contract (SCC)</u>	
•—	Volume — I C : <u>General Conditions of Contract (GCC)</u>	
•—	Volume — I D : <u>Forms & Procedures</u>	
•—	Volume — II (UNPRICED — without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
•—	Any other details preferred by bidder with proper indexing.	

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

	PART-II	
	<u>PRICE BID</u> consisting of the following shall be enclosed	
	<u>ENVELOPE-III</u> superscribed as: PART-II (PRICE BID) TENDER NO:- NAME OF WORK:- PROJECT:- DUE DATE OF SUBMISSION:- <u>CONTAINING THE FOLLOWING</u>	
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	
	<u>ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE)</u> superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO:- NAME OF WORK:- PROJECT:- DUE DATE OF SUBMISSION:- <u>CONTAINING THE FOLLOWING:</u>	
i	01. Envelopes I 02. Envelopes II 03. Envelopes III	

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

7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.

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

9.0 **Assessment of Capacity of Bidders:**

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

1. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The cut off month for reckoning 'Load' shall be the 3rd Month preceding the month corresponding to the 'latest date of bid submission', in the following manner -

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

Total number of Packages in hand = Load (P)

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

2. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (under execution/ executed during the 'Period of Assessment' in all Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding and including the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the 3rd Month preceding the month corresponding to 'latest date of bid submission', in the following manner:

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

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

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

1. $P_1, P_2, P_3, P_4, P_5, \dots, P_N$ etc. be the packages (under execution/ executed during the 'Period of Assessment' in all Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (i.e. $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$)
2. 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

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cumulative total months ' T_T ' for total similar Packages ' P_T ' for all Regions (i.e. $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$)

3. Sum ' S_1 ' of 'Monthly Performance Evaluation' Scores ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots S_{1-T_1}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e. $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots S_{1-T_1}$). Similarly, S_2 for package P_2 for period T_2 , S_3 for package P_3 for period T_3 etc. for the tendered scope for all Regions. Now calculate cumulative sum ' S_T ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' P_T ' for all Regions (i.e. ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$ ').
4. **Overall Performance Rating ' R_{BHEL} ' for the Similar Package/Packages** (under execution/ executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL

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

= -----

Aggregate of months for each of the similar packages for which performance

should have been evaluated in all the Regions

S_T
= -----
 T_T

5. 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.
6. Table showing methodology for calculating 'a', 'b' and 'c' above

Sl. No.	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P_1	P_2	P_3	P_4	P_5	...	P_N	Total No. of similar packages for all Regions = P_T i.e. Sum (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 Packages (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

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Sl. No.	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
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

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

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

1. 'Period of Assessment' i.e. 6 months preceding and including the cut-off month
2. 12 months preceding and including the cut-off month
3. 24 months preceding and including the cut-off month

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

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

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

- iv). Performance Systems: The performance rating as mentioned in II (i) and (ii) above, shall be calculated as per Online Systems i.e. Contractor Performance Evaluation System (CPES) and Safety Performance Evaluation System (HSEPES). The scores assigned in HSEPES shall be scaled down to 10 and assigned in CPES against the category "HSE" (mentioned in Form F-15).

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4. 'Assessment of Capacity of Bidder':

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

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

Note:

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

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

(Where P is calculated as per clause 'I' above)

In addition to above, in case contractor fails to score more than 5 (five) marks in the scaled down scores of HSEPES for "more than 2 months in a period of 6 months preceding and including the cut-off month in any single package", the contractor shall be considered disqualified for ongoing tender(s) of BHEL. Qualification of bidder for further tendering process shall be subject to qualifying this condition in addition to qualifying requirements mentioned in PQR. Bidders who did not qualify this condition shall not be considered under the provisions of clause 9 IV (iv) of NIT.

5. Explanatory note:

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

Table-1

Civil	Electrical and C&I	Mechanical
a) Enabling works	I. Electrical	1. Boiler & Aux (All types including CW Piping if applicable)
b) Pile and Pile Caps	II. C&I	2. Power Cycle Piping/Critical Piping
c) Civil Works including foundations	III. Others (Elect. and C&I)	3. ESP
d) Structural Steel Fabrication & Erection		4. LP Piping
e) Chimney		5. Steam Turbine Generator set & Aux
f) Cooling Tower		6. Gas Turbine Generator set & Aux
g) Others (Civil)		7. Hydro Turbine Generator set & Aux

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		8. Turbo Blower (including Steam Turbine)
		9. Material Management
		10. FGD
		11. ACC
		12. Others (Mechanical)

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

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

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

The "FIRST TIMER" Bidder shall be qualified for this tender subject to satisfying all other tender conditions. Such bidders, if awarded the job shall again be tagged as "First Timer".

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

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

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

d. Consequent upon applying the criteria of 'Assessment of Capacity of Bidders' detailed above on all the bidders qualified against Technical and Financial Qualification criteria, if the number of qualified bidders reduces to less than four, then for further processing of the Tender, BHEL at its discretion reserves the right to also consider the bidders who are "not qualified" as per criteria of 'Assessment of Capacity of Bidders' and for this, procedure described in following three options shall be followed:

- a) All the bidders having Overall Performance Rating (R_{BHEL}) ≥ 60 shall be considered qualified against criteria of 'Assessment of Capacity of Bidders'.
- b) ~~If even after using option "a", the number of qualified bidders remains less than four, then in addition to bidders considered as per option "a", "First timer" bidders having average of available performance scores ≥ 60 upto and including the Cut Off month shall also be considered qualified against criteria of 'Assessment of Capacity of Bidders'.~~
- e) ~~If even after using option "a" and "b", the number of qualified bidders remains less than four, then in addition to bidders considered as per option "a" and "b", "First timer" bidders for whom no performance score is available in the system upto and including the Cut Off month, shall also be considered qualified against criteria of 'Assessment of Capacity of Bidders'.~~

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

e. 'Under execution' shall mean works in progress as per the following:

- a. Up to execution of 90% of anticipated Contract Value in case of Civil, MM, Structural and Turbo Blower Packages
- b. Up to Steam Blowing in case of Boiler/ESP/Piping Packages
- c. Up to Synchronization in all Balance Packages

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

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

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

h. Project on Hold due to reasons not attributable to bidder -

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

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

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

11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail and/or through e-procurement portal, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.

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- 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.**

"Integrity Pact (IP)"

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

Sl. No.	IEM	Email
1.	Shri Arun Chandra Verma, IPS (Retd.)	acverma1@gmail.com
2.	Shri Virendra Bahadur Singh, IPS (Retd.)	vbsinghips@gmail.com

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

Note:

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

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Details of contact person(s):

1. Name: R M Malhotra
 Designation: GM
 Deptt: Purchase
 Address: Floor no. 5 & 6, Shree Mohini Complex,
 345 Kingsway, Nagpur-440001
 Phone: Landline: +91-712-2858-633
 Email : rmalhotra@bhel.in
 Fax: +91-712-2858600

 2. Shubhangi Tembhurne / Dy Manager (Purchase)
 shubh@bhel.in
 0712-2858742
- 16.0 The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre-Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorized representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 **Reverse Auction:** Applicable. "BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com on "**supplier registration page**".) for this tender. RA shall be conducted among the techno-commercially qualified bidders.
- Price Bids of all the techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre-Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:
- 23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement for the said contract with a validity period of six months initially. In case bidder becomes L1, Consortium Agreement valid till contractual completion period shall be submitted to BHEL before signing the contract. Consortium Agreement shall be kept valid till scope of work awarded to consortium partner(s) as per contract is completed.

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- 23.2 'Standalone' bidder cannot become a **'Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding**. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non-compliance, consortium bids of such Prime bidders will be rejected.
- 23.3 Number of partners for a Consortium Bidding (or Technical Tie up) including Prime Bidder shall be NOT more than 3 (three).
- 23.4 Prime Bidder shall be as specified in the Pre-Qualification Requirement, else the bidder who has the major share of work.
- 23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0.
- 23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'.
- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract.
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats.
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL and BHEL shall take necessary action as per extant guidelines. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHEL.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of one work with a consortium partner under direct order of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.
- 23.14 The consortium partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 0.5% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. However, Prime Bidder has also option for submission of SD on behalf of consortium partner (s).

SD submitted by Consortium Partner(s) may be released in case corresponding scope of work of the respective Consortium partner(s) has been completed upto the extent of 80% based on certification by Construction Manager and concurrence by the prime bidder.

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23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also.

24.0 The bidder shall submit/upload documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.

25.0 The bidder may have to produce original document for verification if so decided by BHEL.

26.0 The consultant / firm (and any of its affiliates) shall not be eligible to participate in tender(s) for the related works or services for the same project, if they were engaged for the consultancy services.

27.0 Guidelines/rules in respect of Suspension of Business dealings, Vendor evaluation format, Quality, Safety & HSE guidelines, Experience Certificate, etc. may undergo change from time to time and the latest one shall be followed. The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' is available on www.bhel.com on "**supplier registration page**".

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

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

28.1.1 Commitment by BHEL:

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

28.1.2 Commitment by Bidder/ Supplier/ Contractor:

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

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

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29.0 Micro and Small Enterprises (MSE)

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

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

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

- ~~• MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F.No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) only if they submit along with the offer, attested copies of either Udyam Registration Certificate or EM-II certificate having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or Udyog Aadhar Memorandum (UAM) & Acknowledgement or EM-II Certificate along with attested copy of a CA certificate (format enclosed as Annexure — 3) where deemed validity of EM-II certificate of five years has expired applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the last date of Technical Bid submission. Non submission of such documents will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. Documents submitted by the bidder may be verified by BHEL for rendering the applicable benefits.~~

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

31.0 PREFERENCE TO MAKE IN INDIA:

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

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

- Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
- “Bidder” (including the term ‘tenderer’, ‘consultant’ or ‘service provider’ in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

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3. "Bidder from a country which shares a land border with India" for the purpose of this Clause means: -
- i. An entity incorporated established or registered in such a country; or
 - ii. A subsidiary of an entity incorporated established or registered in such a country; or
 - iii. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - iv. An entity whose beneficial owner is situated in such a country; or
 - v. An Indian (or other) agent of such an entity; or
 - vi. A natural person who is a citizen of such a country; or
 - vii. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
4. The beneficial owner for the purpose of (III) above will be as under:
- a. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.
Explanation
 - i. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.
 - ii. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.
 - b. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.
 - c. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person has ownership of or entitlement to more than fifteen percent of the property or capital or profits of the such association or body of individuals.
 - d. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 - e. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
5. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
6. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Note:

1. The bidder shall provide undertaking for their compliance to this Clause, in the Format provided in Annexure-11.

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2. *Registration of the bidder with Competent Authority should be valid at the time of submission as well as acceptance of the bids.*

32.0 Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.
All overwriting/cutting, etc., will be numbered by bid opening officials and announced during bid opening.

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

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

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

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

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

35.0 Order of Precedence:

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

- a. Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

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

For BHARAT HEAVY ELECTRICALS LTD
(General Manager - Purchase)

Enclosure:

1. Annexure-1: Pre Qualifying Requirements.
2. Annexure-2: Check List.
3. ~~Annexure-3: Certificate by Chartered Accountant~~
4. Annexure-4: Reverse Auction Process Compliance Form
5. Annexure-5: Authorization of representative who will participate in the online Reverse Auction Process
6. Annexure-6: RA Price Confirmation and Breakup
7. Annexure-7: Integrity Pact
8. Annexure-8: Undertaking for insolvency
9. Annexure-9: Declaration reg. Related Firms & their areas of Activities

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10. Other Tender documents as per this NIT.
11. Annexure-10: DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 04TH JUNE, 2020 AND SUBSEQUENT ORDER(S)
12. Annexure 11: DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017
13. Annexure 12: Important information.

Annexure-A: Bid Security Declaration Format

Not Applicable

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ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	Balance Works in 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 Units # 3 & 4 at 4X270 MW Bhadradari TPS.		
TENDER NO	BHE/PW/PUR/MANUT-BAL CHIMNEY-U3 U4/2599		
SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		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	Technical Criteria Bidder shall essentially meet all the Qualifying Requirements (i.e. B.1 and B.2) as under, in the last seven years as on latest date of bid submission: B.1: Bidder should have Executed “ Piling or Civil or Structure or ‘Civil and Structural Works’ or RCC Chimney or RCC Cooling Tower or RCC Silo or Mill Bunker or any combination of these works ” for any one of the following in the last seven years from latest date of bid submission: B.1.1) Executed One work of value not less than Rs. 496 Lakhs against single work order. OR B.1.2) Executed Two works each of value not less than Rs. 310 Lakhs against maximum two work orders. OR B.1.3) Executed Three works each of value not less than Rs. 248 Lakhs against maximum three work orders. AND	APPLICABLE	

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	B.2: Bidder should have built one “Reinforced Cement Concrete Chimney shell” of at least 100 Mtr height against a single contract in the last seven years from latest date of bid submission.		
C.1	FINANCIAL TURNOVER: Bidders must have achieved an average annual financial turnover (audited) of Rs.1,86,00,000/- (Rupees One Crore Eighty Six Lakhs Only) or more over last three Financial Years (FY) i.e. ‘2018-19, 2019-20 and 2020-21’	APPLICABLE	
C.2	NETWORTH (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for ‘C-1’ above should be positive.	APPLICABLE	
C.3	PROFIT Bidder must have earned profit in any one of the three Financial Years as applicable in the last three Financial Years as furnished for ‘C-1’ above.	APPLICABLE	
C-4	Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under Liquidation / BIFR, which will render him ineligible for participation in this tender, and shall submit undertaking (Annexure-8) to this effect.	APPLICABLE	
D	Assessment of Capacity of Bidder: The “Assessment of Capacity of Bidders” for this Tender shall be carried out by considering the identified similar packages as “Chimney”	APPLICABLE	
E	Approval of Customer (if applicable) 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	APPLICABLE	
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E		BY BHEL
G	Consortium tie-ups	NOT APPLICABLE	
<u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u> <u>Explanatory Notes for PQR B.1 (Technical)</u> 4. For the criteria (B.1), actual executed value shall be considered. 5. Value of work is to be updated with indices for "All India Avg. Consumer Price index for industrial workers" and "Monthly Whole Sale Price Index for All Commodities" with base month as per last month of work execution and indexed up to three (3) months prior to the month of latest due date of bid submission as per following formula- $P = R + 0.425 \times R \times \frac{(X_N - X_0)}{X_0} + 0.425 \times R \times \frac{(Y_N - Y_0)}{Y_0}$			

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Where

P = Updated value of work

R = Value of executed work

X_N = All India Avg. Consumer Price index for industrial workers for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).

X_0 = All India Avg. Consumer Price index for industrial workers for last month of work execution

Y_N = Monthly Whole Sale Price Index for All Commodities for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).

Y_0 = Monthly Whole Sale Price Index for All Commodities for last month of work execution

- i. The evaluation currency for this tender shall be INR.

Explanatory Notes for Technical Criteria (B2):

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

Explanatory Notes for PQR -C (Financial):

C-1:

- 1) Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above.
- 2) Evaluation of Turnover criteria shall be calculated from the Audited Balance Sheet and Profit & Loss Account for the three Financial Years (FY).

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3) 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.

4) If financial statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant.

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

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

Net worth = Paid up share capital + Reserves

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

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

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

Common Explanatory Notes:

- i). For evaluation of PQR, in case Bidder alone does not meet the pre-qualifying technical criteria B1 above, bidder may utilize the experience of its Parent/ Subsidiary Company along with its own experience, subject to following:
 - i). The parent company shall have a controlling stake of $\geq 50\%$ in the subsidiary company (as per Format-1).
 - ii). The Parent Company/ Subsidiary Company of which experience is being utilized for bidding shall submit Security Deposit(SD) equivalent to 1% of the total contract value
 - iii). The parent/ subsidiary company and bidder shall provide an undertaking that they are jointly or severally responsible for successful performance of the contract (as per Format-2).
 - iv). In case Bidder is submitting bid as a Consortium Partner, option of utilizing experience of parent/subsidiary Company can be availed by Prime Bidder only.
 - v). Parent Company/ Subsidiary Company of which experience is being used for bidding, cannot participate as a 'Standalone Bidder' or as a 'Consortium bidder'.
- ii). **Completion date for achievement of the technical criteria specified in the Common QR should be in the last 7 years ending on the 'latest date of Bid Submission' of Tender irrespective of date of the start of work. Completion date shall be reckoned from the "FY quarter of bid submission"**
(For e.g – Work completed on 01.01.2014 shall be considered even if latest date of bid submission is 20.03.2021)
- iii). "Executed" means the bidder should have achieved the technical criteria specified in the Common QR even if the Contract has not been completed or closed.
- iv). In case the Experience/PO/WO certificate enclosed by bidders do not have separate break up of prices for the E&C portion for Electrical and C&I works (i.e. the certificates enclosed are for composite order for supply and erection of Electrical and C&I and other works if any), then value of Erection & Commissioning for the Electrical and C&I portion shall be considered as 15% of the price for supply & erection of Electrical and C&I.
- v). Following shall be complied with in case of consortium:
 - a. The Prime Bidder and Consortium Partner(s) are required to enter in to a consortium agreement and certify to BHEL regarding existence and validity of their consortium agreement in line with validity period mentioned in NIT.

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- | | | |
|--|--|--|
| | | <ul style="list-style-type: none">b. Prime Bidder and Consortium partners shall be approved by Customer for being considered for the tender (applicable if customer approval is required).c. Number of partners including prime Bidder shall be NOT more than 3 (three).d. Prime Bidder alone shall necessarily comply with "B1Technical Criteria" except for mechanical package where B1 criteria is not applicable.e. Prime Bidder and Consortium Partner shall together comply with the 'Pre-Qualification Requirements' specified for the respective category of technical requirement as per "B2 technical criteria".f. Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified.g. All other conditions shall be read in conjunction with clause no 23.0 of NIT.h. Prime Bidder shall be the Bidder who has a major share of work.i. Prime Bidder shall be responsible for the overall execution of the Contract.j. Performance shall be evaluated for Prime Bidder and the Consortium partner for their respective scope of work.k. In case the Consortium partner backs out, another consortium partner meeting the QRs, has to be engaged by Prime Bidder and if not, the respective work will be withdrawn and executed on risk and cost basis of the prime bidder.l. In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHELm. After successful execution of one work with a consortium partner under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.
The Consortium partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. |
|--|--|--|

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

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

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Table-1: Bidder's Response against BHEL TECHNICAL PQR			
PQR No	Pre-Qualifying Requirement	Reference no. of Detailed Work Order, Name of the Work based on which bidder is claiming PQR	Ref no. of Completion Certificate/proof based on which bidder is claiming PQR
B	<u>Technical PQR</u>		
	B.1 and B.2 as detailed above		
NOTE: 1. BIDDERS MUST CLEARLY INDICATE IN THE TABLE ABOVE, HOW THEY ARE SATISFYING TECHNICAL PQR ALONG WITH THE REFERENCE OF THE SUPPORTING DOCUMENTS.			

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Format-1

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

To,

.....

.....

Dear Sir,

Sub: Bid for NIT Nodated..... for "....." (name of the tender).

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

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

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

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Format-2

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

From,
Name:
Full Address:

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

To,

Dear Sir,

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

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

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

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

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

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

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

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

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ANNEXURE - 2

CHECK LIST

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

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: Please tick (☒) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with 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	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 Authorized Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
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

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

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ANNEXURE-3

Certificate by Chartered Accountant on letter head

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

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

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

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

(Strike off whichever is not applicable)

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

~~Or~~

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

~~Or~~

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

~~Date:~~

~~(Signature)~~

~~Name:~~

~~Membership Number:~~

~~Seal of the Chartered Accountant~~

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ANNEXURE-4

Reverse Auction Process Compliance Form

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

To

1. M/s. {Service provider}
2. Postal address}

Sub: Agreement to the Process related Terms and Conditions

Dear Sir,

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

This letter is to confirm that:

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

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

With regards

Signature with company seal

Name:

Company / Organization:

Designation within Company / Organization:

Address of Company / Organization:

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

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ANNEXURE – 5

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

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

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ANNEXURE – 6

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

To

3. M/s. Service provider
4. Postal address

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

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

Dear Sir,

We confirm that we have quoted.

Rs. _____ (in value) &
_____ (in words)

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

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

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

Yours sincerely,

For _____

Name:

Company:

Date:

Seal:

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ANNEXURE – 7

INTEGRITY PACT

Between

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

and

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

Preamble

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

_____ (hereinafter referred to as "Contract"). 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 panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1-Commitments of the Principal

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

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

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

Section 3 -Disqualification from tender process and exclusion from future contracts

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

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Contractors", framed by the Principal.

Section 4 -Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance 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 is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above , the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee , whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 -Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 6 -Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

Section 7 -Criminal Charges against violating Bidders/ Contractors /Subcontractors

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

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Section 8 -Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are 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 IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.
- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity; they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

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- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 -Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 -Other Provisions

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of

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the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

For & On behalf of the Principal

(Office Seal)

Place-----

Date-----

Witness:_____

(Name & Address) _____

For & On behalf of the Bidder/ Contractor

(Office Seal)

Witness:_____

(Name & Address) _____

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ANNEXURE - 8

UNDERTAKING

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

To,

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

Dear Sir/Madam,

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

Ref: NIT/Tender Specification No: BHE/PW/PUR/MANUT-BAL CHIMNEY-U3 U4/2599

I/We, _____ declare that,

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

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

Place:

Date:

Annexure-9

DECLARATION

Date: _____

To _____

BHEL, _____

Email: _____

Sub: Details of related firms and their area of activities

Dear Sir/ Madam,

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

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

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

Regards,

(_____)

From: M/s _____
Supplier Code: _____

Address: _____

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Annexure-10

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

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

To,

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

Dear Sir,

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

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

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

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

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

...

...

...

Thanking you,
Yours faithfully,

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

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

Note:

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

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Annexure-11

DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017

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

-
To,

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

Dear Sir,

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

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

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

1. is not from such a country / ☐
2. has been registered with the Competent Authority *(attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT));*
☐

and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. *(attach relevant valid registration, if applicable)*

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

Thanking you,
Yours faithfully,

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

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

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Annexure-12: IMPORTANT INFORMATION

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

Postal Address:

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

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

GM Purchase, Email: rmalhotra@bhel.in Ph: +91 – 712 – 2858 – 633
DGM, Purchase, Email: kamleshbhel@bhel.in +91 – 712 – 2858 – 645
Dy Manager Purchase, Email: shubh@bhel.in Ph: +91-712 – 2858 –742

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

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

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

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

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

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

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

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

7. Acceptance of Bank Guarantee (BG)

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

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

“Bank Guarantee issued by:

- a. Any of the BHEL consortium bank listed below:
 - State Bank of India
 - ABN Amro Bank N.V.
 - Bank of Baroda
 - Canara Bank
 - Citi Bank N.A.

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- Corporation Bank
Deutsche Bank
HDFC Bank Ltd.
The Hongkong and Shanghai Banking Corporation Ltd
ICICI Bank Ltd.
IDBI Ltd.
Punjab National Bank
Standard Chartered Bank
State Bank of Travancore
State Bank of Hyderabad
Syndicate Bank
- b. Any public sector Bank (other than consortium banks) with a clause in the text of Bank Guarantee that **"It is enforceable at Nagpur, Maharashtra"**.
- c. Any private sector banks, with a clause in the text of Bank Guarantee that **"It is enforceable by being presented at any branch of the bank"**.

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

8. Broad Terms & Conditions of Reverse Auction:

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

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

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

Note:-

1. No benefits to MSE bidders w.r.t Reverse Auction Guidelines as available on www.bhel.com against works contract.

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

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

10. Guarantee Period Start date: Commencement Period for "Performance Guarantee for Workmanship" as per clause no 2.24 of Vol-IC GCC: commencing from the date of completion of work as certified by BHEL.

11. PRICE VARIATION COMPENSATION: 2.17 of Vol I C GCC shall not be Applicable for this contract.

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12. Over Run Compensation: 2.12 of Vol I C GCC shall not be Applicable for this contract.

13. Interest bearing recoverable advances- Cl no. 2.13 of GCC: Not Applicable

14. 2.14 QUANTITY VARIATION

2.14.1 clause of GCC is amended as follows:

The quantities given in the contract are tentative and may change to any extent (both in plus side and minus side). The quoted rates for individual items shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of **Minus (-) 30%** of awarded contract value.
(other relevant causes have to read accordingly)

15. Previous contractor (*Who was executing the 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.*) shall not be eligible to participate in this tender.**

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

2599

TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS
LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

1.0	<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 Telangana.
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: Vijayawada (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: 44.8 degrees Centigrade 2) Minimum ambient Temperature: 13 degrees 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

2.0	Site Visit Contractor should visit 4x270 MW Bhadradi 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.
3.0	Scope of Work
3.1	The work comprises of construction of Balance works of 275M high Reinforced Concrete Twin steel flue Chimney i.e. completion of inside chimney corbel beam at roof Top including shell wall, balance fabrication & erection of structural staircase inside chimney, erection of liner brackets, providing & fixing aviation lights, cable trays, cables, rain water pipe, outside shell painting Polyurethane & Synthetic enamel paint), insulation completion of balance flue cans, expansion compensator fixing for both liners (Unit# 3& Unit #04), Sampling port fixing, supply & fixing of rolling shutter & steel doors at platform level, supply & erection of elevator, Readiness of grade slab at EL 0.00m, CEMS room, Roof waterproofing works at EL:269M such as Screed concrete and Acid resistant tiles, Supply & fixing of Hand railing and other misc. works etc in accordance with this specification and approved drawings for Unit #3 &4 at TSGENCO'S 4x 270 MW BHADRADRI Thermal Power station at Telangana.
	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.
3.1.1	Micro Grading After the completion of civil work, the entire area shall be micro graded up to required levels by the contractor to achieve the ground profile as per pavement level requirement at no extra cost. Filling/ cutting required to bring the site up to the required finished levels is in the scope of the contractor. 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.

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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	Available concrete mix design (M 25, M 30/M 35) for all concreting shall be provided by BHEL. Vendor to conduct trial mix and establish the concrete strength before using it for concreting works.
3.4	The scope under this specification covers the completion of balance works 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/tie-up with existing lab with required facilities in the field to carry out all relevant tests. Detail of laboratory equipment as per Annexure-A (Chapter X of TCC) 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.
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.

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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 shall be acquired by bidder. 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
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

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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.
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.

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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 up to 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	CONSTRUCTION POWER & GENERAL ILLUMINATION NETWORK: - 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. 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. 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. GENERAL: - If any other voltage level (other than normally available) is required, the same shall be arranged by the contractor from power supply as above. 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.
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
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.

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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 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 subsystem/ 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 reproduction/ printing/ plotting of various data, log sheets, protocols, measurements etc. These may be stored in CD/PENDRIVE (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 2 no. engineer and no. supervisors with two shift in charges during shell construction.
13.3.2.3	Engineer & Supervisors for quality inspection.	One Nos. Engineer (Civil) +One 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.	

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13.6.2	The program would be jointly finalized by the site in-charge of the contractor 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 issued free of cost by BHEL for use in the work covered in this contract.

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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 weight 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 500 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 computerized 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 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.

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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
	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.	

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16.6	The contractor has 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 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.

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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 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

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	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 weighment 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 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.		

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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).	8500/- per MT
20.2.2	Reinforcement steel and MS rod etc.	75,000/- 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	80,000/- per MT
20.2.4.2	Flats/beams/channel/angels etc. (Rolled Sections)	80,000/- 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	VOID	
	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 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	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

	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).

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

Sl. No.	Description PART I	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, Free of charge)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability, Free of charge))	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			
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.

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

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	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.
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)			

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

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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		(if in plant premises) 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 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	

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

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

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

Sl.No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.0	PART II 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		
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 SI No. e		Yes	In consultation with BHEL
h	Daily erection / work plan based on SI No. g		Yes	In consultation with BHEL
i	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule.		Yes	
j	Preparation of preassembly bay		Yes	
k	Laying of racks for gantry crane if provided by BHEL or brought by the contractor/bidder himself			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 this package:

SL. No.	Major T&P items	Broad Mobilizing time from start of work
1	2 No. Hydraulic Excavator/Dozain with 6 nos. dumper (Mini Excavator/JCB)	The list cited here is only indicative. The T&P required for execution and completion of scope of works shall be decided at site in consultation with BHEL engineer.
2	1 no. vibromax/earth compactor	
3	1 no. air compressor (Shot blasting arrangement)	
4	2 no 18/20 T crawler crane / 40 T Mobile Crane	
5	2 no hydra (10/ 12 T capacity)	
6	4 nos welding rectifier / machine	
7	Motorized MS plate bending machine along with angle bending device – 1 no.	
8	One nos. Portable/stationary automatic Mini batching plant/Concrete mixer	
9	2 nos transit mixer (6 M3 capacity)	
10	1 no concrete pump (20 cum/ hr min capacity & lift 70M)	
11	01 nos self-priming dewatering pump 2-5 HP (diesel/ electric)	
12	1 nos Multi stage high lift water Pump (for curing) (lifting height shall be 300 meter). One shall be working and other will be stand by.	
13	1 no pneumatic hammer.	
14	01 nos reinforcement bending machine	
15	01 nos reinforcement cutting machine	
16	1 no compression testing machine (200 T cap)	
17	Civil laboratory equipment as per list attached in ANNEX 'A'	
18	Power winch – 3 T - 2 no's for structural erection.	
19	Power winch – 5 T - 1no for structural erection.	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

20	Power winch – 10 T - 2 nos for structural erection
21	1 no total station
22	1 no theodolite 1 second accuracy
23	1 nos auto level & staff
24	DG set 250 KVA or more Min 1 No (the quantity may increase as per requirement)
25	Concrete cube moulds – Adequate no.
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.
27	Strand Jack/winch with safety device lifting capacity 15 T
28	Hanging platforms with safety device (01 nos.) /Scaffolding material (Pipes, couplers etc.)
29	1 no trailer – 20T,
30	1 no drinking water tank – 3000 lit.
31	1 no ultra-sonography testing machine for structural work.
32	1 no radiography source
33	Radio set One No. VHF/UHF

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.

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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

CIVIL LABORATORY

Contractor shall establish and maintain civil laboratory/tie-up with existing vendors at site with necessary equipment (as per Annexure-A) 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 & handing 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

6.0 6.1.1 Initial Mobilization and Time Schedule:

After issuance of LOI (through email/fax/courier), Contractor shall report to the Construction Manager of BHEL at site or Project Manager of BHEL at HQ Nagpur within 7 days and make KOM (Kick of Meeting) for mobilization of manpower, T&P, Date of start of work and detailed completion program.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the **work completion of (6) Six months** in a manner required by BHEL to match with the project schedule.

The work has to be take-over on as is where basis is by taking joint measurement of completed works. The actual date of start of work will be certified by BHEL site in-charge/Construction Manager after adequate mobilization of manpower, T&P by the contractor. This certificate date will be deemed as start of work at site for purpose of the contract time schedule.

The entire work of construction up to handing over of Scope civil, structural, electrical & architectural works shall be completed within a period of **06 Months (Six months)** from the date of start of work.

6.1 Schedule of Work Completion:

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

Schedule of Completion for the Package:

Sl No.	Structure/Area Description	Period from DOS
1	Erection of Liner Brackets	2 nd Month
2	Fabrication & Erection of Str. Staircase	3 rd Month
3	Completion of shell outside painting	4 th Month
4	Providing & fixing aviation lights	4 th Month
5	Supply & Erection of Doors & Rolling Shutters	4 th Month
6	Supply & erection of Elevator	5 th Month
7	Completion of Grade slab	5 th Month
8	Completion of CEMS room	5.5 th Month
9	Completion of Misc. finishing works	6 th Month

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI : Time Schedule

6.2 **PROVISION OF PENALTY IN CASE OF SLIPPAGE OF INTERMEDIATE MILESTONES:**

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

Milestones	Civil work of following Activity	Period of release of fronts from DOS
M1	Completion of Shell out side painting	4 th Month
M2	Supply & Erection of Elevator	5 th Month

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

Notes:

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: TERMS OF PAYMENT

7.0 TERMS OF PAYMENT

7.1 Progressive Payment / Final Payment:

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

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

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

Few points of consideration are as below:

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

In case of delay in submission of the abovementioned documents on the date of dispatch, BHEL may incur penalty /interest for not adhering to Invoicing Rules under GST Law. The same will be liable to be recovered from the successful bidder, if such delay is not attributable to BHEL.

8. In case of raising any Supplementary Tax Invoice (Debit / Credit Note) Bidder shall issue the same containing all the details as referred to in Section 34 read with Rule 53.
9. Bidder shall note that in case GST credit is delayed/ denied to BHEL due to delayed / non receipt of goods and /or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from the vendor along with interest levied / leviable on BHEL, as the case may be.
10. Bidder shall upload the Invoices raised on BHEL in GSTR-1 within the prescribed time as given in the GST Act. Bidder shall note that in case of delay in declaring such invoice in your return and GST credit availed by BHEL is denied or reversed subsequently as per GST Law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from the bidder along with interest levied / leviable on BHEL.
11. Way Bill: Successful Bidder to arrange for way bill / e-waybill for any transfer of goods for the execution of the contract.

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

12. **New taxes and duties:-**Any New taxes & duties, if imposed subsequent to due date of offer submission as per NIT & TCN, by statutory authority during contract period including extension, if the same is not attributable to you, shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, you shall obtain prior approval from BHEL before depositing new taxes and duties.

Benefits and/or abolition of all existing taxes must be passed on to BHEL against new Taxes, if any, proposed to be introduced at a later date.

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

13. For transportation work, bidder shall declare in his quotation whether he is registered under GST, if yes, whether he intends to claim GST on forward charge basis. In absence of this declaration, BHEL will proceed further with the assumption that bidder intends not to claim GST on forward charge basis. However, in case of GST registered transporter, the amount to the extent of goods and service tax will be retained till BHEL avails the credit of GST. Further, transporter shall issue tax invoice which inter alia includes gross weight of the consignment, name of the consigner and the consignee, registration number of vehicle in which the goods are transported, details of goods transported, details of place of origin and destination, GSTIN of the person liable for paying tax whether as consigner, consignee or goods transport agency, and also containing other information as mentioned under rule 46.
14. **TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills unless exemption certificate from the appropriate authority/ authorities is furnished.**
15. **TDS under GST shall be deducted at prevailing rates on applicable value from the running bills.**
16. **TCS under Income Tax 1961 has been implemented with effect from 1st October 2020 for every seller having turnover more than threshold limit during financial year immediately preceding financial year in which the sale of goods is carried out, who receives any amount as consideration for sale of any goods of the value or aggregate of such value exceeding threshold limit other than export of goods or who is already covered under other provision of section 206C, collect from the buyer, TCS as per applicable rates of the sale consideration exceeding threshold limit subject to following conditions**
- i. Buyer shall be as per clause (a) of section 206C- (1H)
 - ii. Seller shall be as per clause (b) of section 206C- (1H)
 - iii. No TCS is to be collected, if the seller is liable to collect TCS under other provision of section 206C or the buyer is liable to deduct TDS under any provision of the Act and has deducted such amount.
- If Successful Bidder is falling under the purview of TCS then he has to submit a declaration in that respect along with relevant financial statements before the start of work or if bidder is falling under preview of TCS during the work in progress then bidder is compulsorily required to submit relevant financial statement in the beginning of the respective FY.**
- For TCS claim, vendor has to submit relevant documents required as per Income Tax Act.**
17. Refer Annexure – 2 for BOCW Act & Cess Act.
-

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

ANNEXURE-1

State wise GSTIN no.s of BHEL

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

ANNEXURE-2

BOCW Act & Cess Act

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

1. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
2. It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.
3. It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4. It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may , by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

5. It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
6. It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
7. It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
8. It shall be the responsibility of the sub-contractor as employer to make payment/deposit of applicable cess amount on the extent of work involving building or construction workers engaged by the sub-contractor within a period of one month from the receipt of payment. It shall also be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics :
 - (i) Number of Building Workers employed during preceding one month.
 - (ii) Number of Building workers registered as Beneficiary during preceding one month.
 - (iii) Disbursement of Wages made to the Building Workers for preceding wage month.
 - (iv) Remittance of Contribution of Beneficiaries made during the preceding month
9. BHEL shall reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.
10. It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.

11. Bidders may please note that though the quoted price is exclusive of BOCW (which will be reimbursed by BHEL as per sub-clause 9 above) , however, If at any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed, BHEL reserves the right to deduct the applicable cess (1%) on the contract value and penalty (if any, imposed by Cess Authorities) from the payables on account of non-compliance.
12. The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.

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Chapter – IX: Technical Specifications and Drawings

FOLLOWING DRAWINGS AND TECHNICAL SPECIFICATIONS ARE ENCLOSED SEPERATLEY and "VOLIE" WITH THE TENDER AND ARE A INTIGRAL PART OF THIS SPECIFICATION: -

Sl. No	Description	Specification number	Enclosed as
1	TECHNICAL SPECIFICATIONS FOR RCC CHIMNEY	SPECIFICATION NO. : PE-TS-411-620-C001 VOLUME –II B SECTION-C1	VOLIE Technical Specs and Drawings
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-	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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 Angeles Abrasion testing machine	Standard	IS 2386
4	Aggregate Impact value test	Aggregate Impact value testing machine with blow counter	Standard	IS 9377
5	Aggregate crushing value test	Crushing value apparatus	Standard	IS 2386
6	Flakiness index	Thickness gauge for measuring flakiness index	Standard	IS 2386
7	Elongation Index	Elongation gauge	Standard	IS 2386
8	Bulk density, voids and bulking apparatus	Measuring cylinders	3, 5,10 & 15 liters cylinders	
9	Concrete Compressive test	Digital Compressive Testing Machine with 2000 KN capacity.	2000KN capacity	IS 2505
10	Cement mortar cube casting	Mortar Cube moulds	70.6 x 70.6 x 70.6 mm, minimum 06 sets desired.	IS 10086
11	Concrete Cube casting	Concrete Cube Moulds	150x150x150mm, minimum 20 sets desired considering TG Raft major concerting 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	Motorized 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 moulds, dolly	IS 2720
3	Proctor density test	Std proctor Compaction apparatus	Standard	IS 2720
4	Moisture Content	Rapid moisture meter	Standard, at least 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	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CHAPTER X –Appendix

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 masonry/concrete painting measurement	02 nos	150 micron range	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XI: BOQ/Weightage Factors

Sl no.	DESCRIPTION	Weightage in % of Grand total price quoted by the bidder		
1	Civil Works - Section -A	64.9094155574203%		
2	Electrical/Mechanical E&C - Section -B	10.9389550807500%		
3	Electrical Supply Works - Section-C	24.1516293618297%		
	Grand TOTAL PRICE TO BE QUOTED FOR ALL THE ABOVE SECTIONS (in Rs.) VOL II Price Bid at E-Procurement Portal ->	100%		
SL No.	Civil Works- Section -A	Unit	Quantity (A)	Weightage % w.r.t Section A (X)
a	Depth from ground level but not exceeding 2 m	cum	100	0.07450415
b	Depth exceeding 2 m but not exceeding 4 m	cum	100	0.11149194
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	cum	100	0.06690838
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	cum	100	0.06321145
c	Each layer compacted so as to achieve at least 85% maximum dry density as per IS-2720 (Part-VII)	cum	100	0.05945849
9	Extra over item No. 1 and 3 to 7 for <u>carriage of excavated earth/selected materials</u> for every 1 km or part thereof beyond an initial lead of 500m.	cum	200	0.02538797
11	<u>Supplying and filling sand</u> upto any depth below grade slab, around foundations, etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete including necessary men/women, materials, equipment, loading, transportation, unloading etc as per specification, drawing and as directed by engineer- in-charge.	cum	100.000	0.65864424
12	<u>Supplying and laying</u> (inside chimney in the space below the grade level slab) <u>crushed rock</u> (63mm down graded) and sand fill in layers no more than 150 mm thick each and thoroughly compacted by compacting equipment and by water flooding to achieve maximum density for all leads and lifts including all labour, materials, equipment etc. complete as per drawings, specifications and directions of the Engineer.	cum	100.000	0.57456211

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XI: BOQ/Weightage Factors

13	Providing and laying <u>Nominal Mix plain cement concrete (1:3:6)</u> with graded aggregate (with maximum size of coarse aggregate not exceeding 40 mm) at all levels for all kinds of <u>work like mass concrete, lean concrete, mudmat, filling</u> etc. including labour, materials, equipment, handling, transporting, batching, curing, testing etc. all complete as per specifications, drawings and instructions of the Engineer.	cum	15.000	0.24176953
a	Grade M-25 (foundations, etc)	cum	25.000	0.49353520
a	Grade M-20 (grade level slab)	cum	2.000	0.03782158
b	Grade M-30 for chimney shell, corbels and external platforms and other shell attachments.	cum	22.214	0.53181884
15	Providing and applying <u>two coats of bitumen</u> grade 85/25 as per IS 702 (@ 1.7kg/sqm) with 1% antistripping compound conforming to IS 6241 in foundation, shell, pedestal etc <u>on concrete surfaces exposed to soil / ash</u> including surface preparation etc. all complete.	Sqm	1.000	0.00085111
a	High strength deformed bars	Mt	2.000	0.33066899
b	High strength deformed bars	Mt	5.000	0.86127055
	For all works below ground level (except chimney shell)	Sqm	50.000	0.08719417
a	Inner and outer faces of wind shield with slip form shuttering	Sqm	200.000	0.78413578
b	All other components of the superstructure including slabs, beams, columns, walls, enclosures, mini shells, external platforms, corbels, other shell attachments, chases/recesses in shell etc.	Sqm	50.000	0.20974519
19	Providing and placing in position at all levels, <u>building paper (kraft paper)</u> , as per IS:1397, between concrete surfaces including the cost of labour, material, etc. complete as per drawings and instruction of the Engineer.	Sqm	60.000	0.02511997
20	Providing and installing, at all levels, <u>bitumen impregnated fibre boards</u> , 12 mm thick, conforming to IS:1838, as joint filler at joints in concrete, including nailing, coating of both faces with coal tar pitch/bitumen, including the cost of all labour, material and equipments etc., complete as per drawings, specifications and instructions of the Engineer.	Sqm	34.000	0.06302885
21	Providing and filling, at all levels, <u>bitumen sealing compound</u> (hot applied type) conforming to IS:1834, for sealing gaps and joints in concrete, including cleaning, mixing, heating, pouring or injecting, application of primer, cost of all labour, material and equipments etc., complete as per drawings, specifications and instructions of the Engineer.	Kg	508.000	0.54791636

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XI: BOQ/Weightage Factors

22	Preparing detailed fabrication drawings and after approval by the Engineer, supplying, fabricating, erecting and installing <u>miscellaneous steel parts to be embedded/cast in concrete</u> (like staircase embedments, corbel face plates, etc) at all positions and levels including the cost of all labour, materials and equipments for setting materials in concrete, grouting, welding, bolts & bolting, expansion anchors, drilling, cutting, etc. complete as per drawings and specification. ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR. Payment terms :a) on receipt of materials at site - 65 %b) Erection and fixing - 35 %	Mt	1.000	0.28733944
(a)	Fabrication - 65%	MT	40.000	3.57674931
(b)	Erection - 15% (This includes erection of already fabricated members)	MT	155.130	8.28834583
(c)	Alignment - 10% (This includes alignment) of already fabricated members)	MT	155.131	2.75040408
(d)	Painting - 10% (This includes shot blasting & painting of already fabricated members)	MT	108.402	2.33857469
24	Supplying, fabrication, erection and alignment of factory made <u>galvanised welded grating units</u> with mild steel conforming to IS:2062 in platforms, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment terms : a) on receipt of materials at site - 65 % b) Erection and fixing - 35 %	Mt	1.000	0.33234288
25	Providing and fixing in positing of <u>high strength structural bolts</u> (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment terms :a) on receipt of materials at site - 65 %b) Erection and fixing - 35 %	Quintal	40.000	2.13613881
	Fabrication - 65%	Mt	15.000	1.13495500
	Erection - 15% (This includes erection of already fabricated members)	Mt	21.057	1.16986365
	Alignment - 10% (This includes alignment of already fabricated members)	Mt	21.057	0.35963891
	Painting - 10% (This includes shot blasting & painting of already fabricated members)	Mt	21.057	0.43712896
a	Mild steel ladders with cage, hood access hatch, louvers, bird screens, hood drain basin covers and other miscellaneous mild steel items not specifically mentioned.	Mt	4.000	1.29014495

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XI: BOQ/Weightage Factors

b	32/40 mm nominal bore medium class tubular hand railing for stair case and internal and external platforms.	Mt	16.000	5.13689009
c	Providing minimum 275 gsm Hot dipped galvanisation on mild steel parts as per specification.	Mt	2.000	0.25504945
28	Preparing detailed fabrication drawings after approval by the Engineer, providing, fabricating and erecting, at all levels, mild steel strakes complete with all stiffeners, attachments, fasteners, pipe sleeves, etc. including the cost of all labour, material and equipment, transporting, lifting to all heights, setting in place, embedding components in concrete, fixing to cast-in embedments, cutting, grinding, drilling, bolts and bolting, welding, preheating and post heating for welding, testing, grouting, primer and finish painting of exposed components, etc. complete as per drawing and specifications.	Mt	1.000	0.32691547
29	<u>Supplying, fabricating and installing in the liners, gas sampling and gas opacity measurement ports</u> made from SS grade 316L pipe including the cost of all labour, materials, bolts and bolting, asbestos gaskets, cover plates & all other accessories, painting etc., complete as per drawings and specifications. (Supply of SS pipe shall be provided by BHEL)	Each	20.000	0.72055650
30	Preparing detailed fabrication drawings after approval by the Engineer, providing, fabricating and erecting, at all levels SS Mini Shell at roof shell of grade A316L, etc. complete as per drawing and specifications. (Stainless steel will be supplied by BHEL as per TCC)	Mt	3.000	1.86256406
a	Stainless steel components.	Mt	0.240	0.22271988
b	Lead Sheets.	Kg	80.000	0.10827719
32	Preparing detailed fabrication drawings and after approval by the Engineer, providing, fabricating and installing expansion compensator joints including bolster in the flue liner including all labour, material and equipment transporting, hoisting, fixing in position, drilling, cutting, bolts and bolting, etc. along with the user handbooks (giving details of installation, dismantling and maintenance procedures for the expansion joints), testing, etc complete as per drawings and specifications.	Sqm	10.000	1.50450306
33	Supplying ,Fabricated Ready to Install, spare expansion compensators alongwith bolster including the cost of all labour, material and equipment, accessories, transporting, proper packaging (for several years of storage), and delivery to site store complete in all respects as per drawings and specification.	Sqm	1.000	0.14023538

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34	Supplying and laying in position <u>shaped acid resisting bricks</u> conforming to class - I of IS:4860 at all elevations for liner, baffle wall construction (with sloped A/R mortar toppings over brick work) complete including the cost,of all labour, material and equipment, raking joints, flush pointing, cleaning, curing, etc. complete as per drawings and specifications.	Cum	1.000	0.13469930
38	Supplying and laying <u>vermiculite concrete</u> in the liner basin including the cost of all labour, material and equipment for handling, transporting, mixing, lifting, placing, curing, finishing of surface etc. complete as per drawings and specifications.	Cum	1.000	0.15880641
40	Supplying, fabricating & installing, at all levels <u>mild steel circumferential reinforcing bands</u> around the brick liners at all elevations including the cost of all labour, transportation, materials & equipments, lifting to all heights, setting in place, a/r mortar fill behind bands, cutting, bending, drilling, grinding, bolts and bolting,priming, finish painting, etc. complete as per drawings and specification.	Mt	1.000	0.32492164
41	Providing, fabricating and installing, at all levels, <u>chemical lead sheet</u> (2 mm thick) at expansion joints between brick lining segments including the cost of all labour, transportation, material & equipments, cutting, soldering of joints, testing etc. complete as per drawings and specifications.	Kg	10.000	0.03649884
42	Supplying and installing ready mix castable refractory <u>concrete at opening</u> of chimney shell baffle wall and at other locations including all necessary arrangement for keeping them in position as per drawings and approval of Engineer.	Cum	5.000	0.37502551
a	25 mm (diameter) at expansion joints between brick linig segments.	Rm	10.000	0.01358465
b	12 mm (diameter) at expansion joints between brick linig segments.	Rm	100.000	0.09355967
a	25 mm thick asbestos mill boards.	Sqm	1.000	0.00455339
b	3 mm thick asbestos mill boards.	Sqm	1.000	0.00294564
45	Supplying, fabricating and installing, on top of the mini shells, <u>grey cast iron caps</u> complete including the cost of all labour, material and equipment, transporting, test assembling, drilling, lifting to position, setting in place, bolts and bolting, inclusive of bronze rag bolts bronze bolts and nuts, brass washers, non-shrink grout, primer and finish painting, etc., complete as per drawings and specifications.	Mt	0.100	0.07664493

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46	Providing and installing, at all levels, <u>resin bonded glass wool insulation</u> slabs of density not less than 64 kg/m ³ with an installed thickness of not less than 100 mm, on the outside surface of steel flue liners, on the outside surface of brick liner, on the inside surface of concrete windshield, inside surface of concrete minishells, under the cast iron caps and wherever as directed by the Engineer, in two layers (each 50 mm thick) including the cost of all labour, material and equipment, transporting, lifting to all heights, etc., inclusive of plated or galvanised accessories such as pins/studs/anchors/wire netting, speed washers, tying wires, etc. welding of pins/studs to steel surfaces or embedding of pins/studs/anchors in concrete surfaces, fixing, cutting, cutting, lapping, binding, testing, etc. complete as per drawings and specifications.	Sqm	100.000	0.35548288
47	Providing and installing, at all levels, <u>resin bonded rock wool insulation</u> slabs of density not less than 100 kg/cu.m with an installed thickness of not less than 100 mm, on the outside surface of steel flue liners, on the outside surface of brick liner, on the inside surface of concrete windshield, inside surface of concrete minishells, under the cast iron caps and wherever as directed by the Engineer, in two layers (each 50 mm thick) including the cost of all labour, material and equipment, transporting, lifting to all heights, etc., inclusive of plated or galvanised accessories such as pins/studs/anchors/wire netting, speed washers, tying wires, etc. welding of pins/studs to steel surfaces or embedding of pins/studs/anchors in concrete surfaces, fixing, cutting, cutting, lapping, binding, testing, etc. complete as per drawings and specifications.	Sqm	2400.000	7.66137648
48	Providing and packing, at all levels, <u>loose glass wool insulation</u> to a density not less than 64 kg/m ³ between the insulated minishells and brick liners at expan joints between the lining segments and wherever as directed by the Engineer including the cost of all labour, material and equipment, filling, ramming, testing, etc. complete as per drawings and specifications.	Cum	5.000	0.23290156
49	Providing and packing, at all levels, <u>loose rock wool insulation</u> to a density not less than 100 kg/cu.m between the insulated minishells and brick liners at expan joints between the lining segments and wherever as directed by the Engineer including the cost of all labour, material and equipment, filling, ramming, testing, etc. complete as per drawings and specifications.	Cum	5.000	0.25529938

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50	Providing and painting, at all levels, inside surface of chimney shell, inside and outside surfaces of minishells, underside of roof slab and other concrete components/surfaces of the chimney as indicated in the drawings and wherever as directed by the Engineer, with <u>acid and heat resisting black bituminous paint</u> (conforming to type I(i) of IS:158) in as many number of coats (not less than four coats in any case) as required to give a paint DFT of not less than 150 microns including the cost of all labour, materials, equipment, surface preparation, primer and finish painting, protecting, cleaning etc. complete as per drawings and specifications.	Sqm	1000.000	1.08926770
52	Providing and painting, at all levels, the external surfaces of chimney shell and wherever as directed by the Engineer, with <u>cement based paint</u> in alternate bands of colours 'signal red' and 'pure/bright white including the cost of all labours, material and & equipment, surface preparation, primer and finish painting, protecting, cleaning etc. complete as per drawings and specification.	Sqm	100.000	0.11355290
52 (a)	Providing and painting two coats of cement primer and two coats of synthetic enamel paint at all levels, the external surfaces of chimney shell and wherever as directed by the Engineer in alternate bands of colours 'signal red' and 'pure/bright white including the cost of all labours, material and & equipment, surface preparation, primer and finish painting, protecting, cleaning etc. complete as per drawings and specification.	Sqm	13500.000	21.16660002
54	Providing and painting, at all levels, the external surfaces of chimney shell and wherever as directed by the Engineer, with <u>acid and heat resistant polyurethane paint</u> in alternate bands of colours 'signal red' and 'pure/bright white including the cost of all labours, material and & equipment surface preparation, primer and finish painting, protecting, cleaning etc. complete as per drawings and specification.	Sqm	2600.000	4.48930817
55	Proving and laying over the <u>chimney roof, a comosite acid and heat protection treatment</u> including providing of slopes for roof drainage including the cost of all labour, material and equipment, etc., complete as required for preparing the roof concrete, laying under bed of plain cement concrete screed to slopes, preparation of screed surface for painting, painting the screed surface with black bituminous paint, applying bitumenmastic in layers, laying acid resisting(A/R) mortar bed and laying 75 mm thick acid resisting(A/R) bricks with A/R mortar, curing, pointing(with phenolic based A/R cement), protection and cleaning, finishing, etc., complete as per drawing and specifications.	Sqm	170.000	1.27108613

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56	Providing, fitting & <u>fixing, outlet and overflow, cast iron roof drain heads (with gratings)</u> in chimney roof including sockets, adapters, brackets, hangers, supports, etc., casting-in and jointing to 150 mm nominal bore rainwater pipes, grouting, etc. including the cost of all labour material and equipment, transporting, lifting, setting in place, painting, etc. complete as per drawing and specifications.	Each	8.000	0.11393700
a	150 mm nominal bore <u>cast iron pipes.</u>	Rm	50.000	0.36580484
b	150 mm nominal bore <u>medium class galvanised mild steel pipes.</u>	Rm	600.000	3.54425609
58	Providing and laying 50 mm thick <u>cement concrete flooring</u> (comprising of 12 mm thick mettalic concrete hardener topping over 38 mm thick under bed of concrete) over the grade level slab inside the chimney, including the cost of all labour, material and equipment, etc. complete as required for preparation of base, laying underbed and topping, finishing, rounding of edges, corners and junctions, curing, testing, etc. complete as per drawing and specifications.	Sqm	562.000	1.15832352
59	Providing and installing an <u>electrically operated grill type steel roll-up door</u> (with the bottom 0.5 metres of the curtain in solid type) at chimney base, in opening of size 7 m by 7 m, with all hardware and mechanisms, fittings and fixtures, locking arrangements, frames, fasteners, gear handle arrangement for standby manual operation, all electrical accessories such as motors, control systems, cables, etc. including the cost of all labour, material and equipment, fixing in position, grouting primer and finish painting, testing, etc., complete as per drawing and specifications.	Each	1.000	1.11746881
60	Providing and installing at any level and location, mild steel, double plate, <u>personnel access doors</u> , in shell openings of size 1.1m by 2.15m, complete with all fittings and fixtures, locking arrangements, frames, fasteners including the cost all labour, material and equipment, lifting to all heights, setting in place, grouting primer and finish painting, etc., complete as per drawing and specifications.	Each	9.000	0.76734314
a	Hood Access Hatch	Each	1.000	0.11998523
66	Erection and commissioning of one number Rack & Pinnion Type stack Elvator of proven make after obtaining approval from BHEL/ TSGENCO from ground upto top of chimney with landing at various platform level complete as per spec. and drawings.	Lumpsum	1.000	13.47704681

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A 1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.			
a	Using fly ash lime/cement bricks confirming to IS 12894 with crushing strength of 75 kg/cm ²	Cum	11.592	0.28344581
A 1201	Providing 20mm thick plaster in two layers outside of the building wall/rough surface of internal wall in 1:4 cement sand mortar of 12mm thick first layer and 1:3 cement sand mortar with 8mm second layer , finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	50.400	0.11002617
A 1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:4 on walls finished to a smooth finish as per specification all complete.	SQM	50.400	0.09723863
A 1204	Providing 6mm thick plaster on ceiling in cement mortar 1:3 finished to a smooth all complete.	SQM	17.390	0.02927685
1304	Two or more coats of acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete as per spec.	SQM	50.400	0.05354784
1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	50.400	0.06625547
A1305	Providing and applying two or more coats of external quality acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1.000	0.00199276
1309	Two or more coats of synthetic enamel paint of approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior and exterior surfaces complete.	SQM	1.000	0.00199276
A 1312	Providing and applying 3 mm thick white cement putty punning on walls (Birla White/ JK White or Similar approved) including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	100.000	0.09831694

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1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, glass strips etc. all complete as per specification. (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	17.390	0.05198135
903	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partical board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anoidised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately)	SQM	2.520	0.05464677
A903	Providing, fitting and fixing solid core wooden flush door shutter with PVC lamination on both sides as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partical board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anoidised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately)	SQM	2.520	0.05668479

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904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	1.000	0.02808640
906	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)	SQM	1.000	0.02649535
912	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	1.000	0.00234850
A 909	Supply of anodised aluminium sections of Jindal, Hindalco or other equivalent approved make for door/window frames, door/window shutters, ventilators, partitions, railing, grills etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-mettalic protection etc.including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever	Kg	1.000	0.00290457

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	required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately). Weight of aluminium section only shall be measured.			
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	2.000	0.28609596
	Civil Works Total Amount - Section -A			100.00000000
	ELECTRICAL/MECHANICAL ERECTION WORKS ETC. (BIDDER TO QUOTE RATES FOR ERECTION AND COMMISSIONING ONLY)- Section -B			
S.NO	DESCRIPTION	UNIT	Quantity	Weightage % w.r.t Section B
1	415V, 200A, 50 KA for 0.25 sec, 3-phase 4 wire AC Distribution Board with 1No. incomer (MCCB) & 9 nos. of 100A (TPN) outgoing complete in all respects.	No.	1.000	1.12955294
2	415V, 200A, 3-phase 4 wire AC Emergency Lighting distribution board alongwith 50KVA lighting transformer (415/433 V, Dyn11, Z=4%, ±2x2.5% Off Ckt. Tap) with 2 nos. of incomers with auto changeover facility using contacts and 6 nos. 100A MCCB (TPN) outgoings complete in all respects.	No.	1.000	1.13783334
3	Normal AC lighting panel outdoor type with degree of protection IP 55 with one no. 100A MCCB (TPN) Incomer ,			
	(a)18 outgoing (16A SP MCBs)	No.	2.000	1.07146469
	(b)12 outgoing (16A SP MCBs)	No.	1.000	0.21756432
4	Emergency lighting panel outdoor type with degree of protection IP 55 with One no. of 100A TPN/MCCB incomer and 12 outgoings (16A, SP MCBs)	No.	2.000	0.45062302
5	Aviation lighting panel outdoor type with degree of protection IP 55 with one no. 100A SFU (TPN) Incomer , 8 outgoing 32A SFU (TPN), photodetector and timer circuit along with 100A contactor to control Aviation lighting systems	No.	1.000	0.27574666
6	Aviation obstruction lights :			
	a) High intensity Type-A flashing white light having intensity of 4000 to 200,000 candles depending upon background luminance & flashing frequency 40-60/min.	No.	6.000	2.13431966

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	b) Medium intensity Type-B RED flashing LED light having intensity of as per ICAO depending upon background luminance & flashing frequency 40-60/min.	No.	3.000	0.71724243
	c) A common flasher with flash frequency of 40 flashes per minute shall be provided in aviation control panel.	No.	1.000	0.20116035
7	Flood light with 250W HPSV lamps with all controlgears & accessories	No.	4.000	0.19364840
8	Well glass type luminaries with 150W/HPSV lamp with all controlgears & accessories	No.	150.000	4.30174209
9	63Amp welding switch socket with plug & other Mounting accessories	No.	9.000	0.31630179
10	3 pin, 1 ph, 240V,15Amp. Power socketscomplete with plug Switches etc.	No.	10.000	0.13518377
11	Al conductor, PVC insulated, Armoured, , PVC outer sheath, FRLS type 1100V grade conforming to IS-1554 Part I.	Meters		
	a. 3½ C x95mm ² Al for connection between ACDB/ELDB/ welding sockets	Meters	1400.000	3.82571957
	b. 3½ Cx35mm ² Al for Lighting panel incoming supply	Meters	1000.000	1.75017505
	c. 4Cx16mm ² Al conductor, PVC insulated, Armoured, PVC outer sheath, FRLS type 1100V grade conforming to IS-1554 Part I.	Meters	1600.000	2.47207521
12	Control cables shall have stranded annealed tinned copper conductor, 1100V grade PVC insulation, extruded PVC inner sheath, galvanized steel wire armoured, overall extruded PVC sheath, FRLS type			
	a) 2.5 mm ²	Meters	500.000	0.59797647
13	Flexible trailing cable : annealed tinned copper conductor, EPR insulated, reinforced with nylon cord, cores laid up, HDCSP inner sheathed, cotton taped and HDCSP overall sheathed conforming to IS:9968.	Meters	50.000	0.07300237
14	PVC insulated 650/1100V grade stranded Cu Conductor lighting wires conforming to IS-694.			
	a. From Lighting panels to junction boxes : 6 SQ.mm	Meters	2000.000	1.60263341
	b. From junction boxes to lighting fixtures (Number of wires per lead as required) : 2.5 SQ.mm	Meters	1500.000	0.95789150
	c. From Lighting panels to receptacles (15A) : 6 SQ.mm	Meters	2000.000	1.60150427
15	GI conduit 32mm dia with junction Boxes,Pull boxes & accessories	Meters	5000.000	15.79235019
16	Electro galvanise felxible steel conduit 32 mm dia with accessories	Meters	10.000	0.02342976
17	Lightning protection Air terminal	Meters	45.000	1.88807191
18	Earthing materials			
	i) Distribution Boards, Lighting Panels and motors above 90 KW : 50 mm x 6 mm GI Flat	Meters	300.000	0.84827032

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	ii) Motors above 30 KW upto 90 KW : 35 mm x 6 mm GI Flat	Meters	250.000	0.58182342
	iii) Motors above 5 KW upto 30 KW : 25 mm x 3 mm GI Flat	Meters	400.000	0.61162031
	iv) Motors upto 5 KW : 8 SWG GI wire	Meters	300.000	0.17501750
	v) Lighting Fixtures, junction boxes, conduits, etc. : 16 SWG G.I. wire	Meters	250.000	0.14349553
19	Telephone Socket with junction box	No.	10.000	0.12260634
20	Telephone cable shall be of minimum 0.6 mm dia annealed high conductivity electro copper conductor. PVC insulated, twisted , PVC tape wrapped, screened, tip corded, PVC sheathed, conforming to relevent ITD (Indian telephone department) specification.	Meters	150.000	0.14443648
21	GS cable trays. Cable trays shall be of ladder type constructed of minimum 2 mm thick mild steel hot dip galvanised.			
	600 mm wide		150.000	1.32956847
	450 mm wide		100.000	0.76813238
	300 mm wide		150.000	0.93648479
	150 mm wide		350.000	1.59946553
22	Aviation distribution board (ADB) with one 32A MCCB(TPN) incomer and 6 nos. SP 20A MCB. Construction is same as LP	No.	4.000	0.44180942
66	Supply one number Rack & Pinnion Type stack Elvator of proven make after obtaining approval from BHEL/ TSGENCO from ground upto top of chimney with landing at various platform level complete as per spec. and drawings.	Lumpsum	1.000	49.43005634
	Electrical/Mechanical E&C Total Amount- Section - B			100.0000000
	ELECTRICAL WORKS (Supply, of following items as per specification) – Section C	UNIT	Quantity	Weightage % w.r.t Section C
1	415V, 200A, 50 KA for 0.25 sec, 3-phase 4 wire AC Distribution Board with 1No. incomer (MCCB) & 9 nos. of 100A (TPN) outgoing complete in all respects.	No.	1.000	3.89121058
2	415V, 200A, 3-phase 4 wire AC Emergency Lighting distribution board alongwith 50KVA lighting transformer (415/433 V, Dyn11, Z=4%, ±2x2.5% Off Ckt. Tap) with 2 nos. of incomers with auto changeover facility using contacts and 6 nos. 100A MCCB (TPN) outgoings complete in all respects.	No.	1.000	4.08210164
3	Normal AC lighting panel outdoor type with degree of protection IP 55 with one no. 100A MCCB (TPN) Incomer ,			
	(a)18 outgoing (16A SP MCBs)	No.	2.000	1.32227525

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	(b)12 outgoing (16A SP MCBs)	No.	1.000	0.55063643
4	Emergency lighting panel outdoor type with degree of protection IP 55 with One no. of 100A TPN/MCCB incomer and 12 outgoing (16A, SP MCBs)	No.	2.000	1.27742925
5	Aviation lighting panel outdoor type with degree of protection IP 55 with one no. 100A SFU (TPN) Incomer , 8 outgoing 32A SFU (TPN), photodetector and timer circuit along with 100A contactor to control Aviation lighting systems	No.	1.000	0.71932890
6	Aviation obstruction lights :			
	a) High intensity Type-A flashing white light having intensity of 4000 to 200,000 candles depending upon background luminance & flashing frequency 40-60/min.	No.	6.000	11.90095421
	b) Medium intensity Type-B RED flashing LED light having intensity of as per ICAO depending upon background luminance & flashing frequency 40-60/min.	No.	3.000	2.50905216
	c) A common flasher with flash frequency of 40 flashes per minute shall be provided in aviation control panel.	No.	1.000	0.55515257
7	Flood light with 250W HPSV lamps with all controlgears & accessories	No.	4.000	0.63460364
8	Well glass type luminaries with 150W/HPSV lamp with all controlgears & accessories	No.	150.000	9.86681724
9	63Amp welding switch socket with plug & other Mounting accessories	No.	9.000	1.01813573
10	3 pin, 1 ph, 240V,15Amp. Power socketscomplete with plug Switches etc.	No.	10.000	0.32573630
11	Al conductor, PVC insulated, Armoured, , PVC outer sheath, FRLS type 1100V grade conforming to IS-1554 Part I.	Meters		
	a. 3½ C x95mm ² Al for connection between ACDB/ELDB/ welding sockets	Meters	1400.000	8.59984088
	b. 3½ Cx35mm ² Al for Lighting panel incoming supply	Meters	1000.000	3.38816910
	c. 4Cx16mm ² Al conductor, PVC insulated, Armoured, PVC outer sheath, FRLS type 1100V grade conforming to IS-1554 Part I.	Meters	1600.000	4.17158767
12	Control cables shall have stranded annealed tinned copper conductor, 1100V grade PVC insulation, extruded PVC inner sheath, galvanized steel wire armoured, overall extruded PVC sheath, FRLS type			
	a) 2.5 mm ²	Meters	500.000	0.71719797
13	Flexible trailing cable : annealed tinned copper conductor, EPR insulated, reinforced with nylon cord, cores laid up, HDCSP inner sheathed, cotton taped and HDCSP overall sheathed conforming to IS:9968.	Meters	50.000	0.27424991
14	PVC insulated 650/1100V grade stranded Cu Conductor lighting wires conforming to IS-694.	Meters		

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	a. From Lighting panels to junction boxes : 6 SQ.mm	Meters	2000.000	1.78429366
	b. From junction boxes to lighting fixtures (Number of wires per lead as required) : 2.5 SQ.mm	Meters	1500.000	2.44630071
	c. From Lighting panels to receptacles (15A) : 6 SQ.mm	Meters	2000.000	4.19934082
15	GI conduit 32mm dia with junction Boxes,Pull boxes & accessories	Meters	5000.000	19.00784193
16	Electro galvanise felxible steel conduit 32 mm dia with accessories	Meters	10.000	0.01782873
17	Lightning protection Air terminal	Meters	45.000	4.93758523
18	Earthing materials			
	i) Distribution Boards, Lighting Panels and motors above 90 KW : 50 mm x 6 mm GI Flat	Meters	300.000	0.80290231
	ii) Motors above 30 KW upto 90 KW : 35 mm x 6 mm GI Flat	Meters	250.000	0.48376946
	iii) Motors above 5 KW upto 30 KW : 25 mm x 3 mm GI Flat	Meters	400.000	0.41350721
	iv) Motors upto 5 KW : 8 SWG GI wire	Meters	300.000	0.07694340
	v) Lighting Fixtures, junction boxes,conduits, etc. : 16 SWG G.I. wire	Meters	250.000	0.07103079
19	Telephone Socket with junction box	No.	10.000	0.40832495
20	Telephone cable shall be of minimum 0.6 mm dia annealed high conductivity electro copper conductor. PVC insulated, twisted , PVC tape wrapped, screened, tip corded, PVC sheathed, conforming to relevent ITD (Indian telephone department) specification.	Meters	150.000	0.23911737
21	GS cable trays. Cable trays shall be of ladder type constructed of minimum 2 mm thick mild steel hot dip galvanised.	Meter		
	600 mm wide		150.000	2.07552420
	450 mm wide		100.000	1.18949880
	300 mm wide		150.000	1.50046667
	150 mm wide		350.000	2.84779235
22	Aviation distribution board (ADB) with one 32A MCCB(TPN) incomer and 6 nos. SP 20A MCB. Construction is same as LP	No.	4.000	1.69345198
Electrical Supply Works Total Amount- Section-C (Rs.)				100.00000000

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

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Instructions to the Bidders

1. **Bidders shall quote Total Price for the entire scope of works in Rupees in VOL II PRICE BID at BHEL E-procurement Portal.** Any other entry elsewhere in the offer of the bidder shall be treated as Null and Void.
2. Total Price is divided into total 3 sections:
 - Civil Works - Section -A
 - Electrical/Mechanical E&C - Section -B
 - Electrical Supply Works - Section-C
3. BHEL has pre-fixed the Weightage in %, w.r.t the total Grand Total Price quoted by the bidder for the subject tender, as detailed above in this chapter for deriving the total price for each section, rounding off to two decimals.
4. BHEL has also pre-fixed Weightage %
w.r.t Section A for deriving item rates of Section A items,
w.r.t Section B for deriving item rates of Section B items and
w.r.t Section C for deriving item rates of Section C items.
5. Further, total amount derived in line with sl no. 3 for respective sections ('X'), multiplied by Weightage % of individual items, divided by quantity of individual items, that is how item rates shall be derived, rounding off to two decimal places ('B').
6. Based on the quantities of individual item 'A' and the item rates/Unit Rates arrived in Sl No 5 above, the total amount for individual items shall be derived. Total amount thus derived shall be rounded off to two decimal places.
7. **Grand Total amount for the work shall be derived by BHEL by summing up respective total amounts rounding off to zero.**
8. **Bidders to note that this, is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per Sl No.5 above.**
9. For the convenience of bidders, BHEL has issued an excel sheet "Excel Sheet For Calculation Purpose Only 2599" with all the requisite formulae as described above. ***However the referred excel sheet shall not form part of contract document. Further, this sheet should not be uploaded at the e-Portal.***