

**BHEL PSWR
Notice Inviting Tender**

E-Tender Spec No: BHE/PW/PUR/ RGEM1-MECH ESP R&M U4 U5 U6/2509

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TENDER SPECIFICATIONS

Sl. No.	E- TENDER SPECIFICATION NUMBER
01	BHE/PW/PUR/ RGEM1-MECH ESP R&M U4 U5 U6/2509

For

**Mechanical Package (Dismantling Erection and
Commissioning) of ESP R&M Stage II (3X500MW) Unit 4, 5
and 6 at NTPC Ramagundam**

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 Annexures
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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Volume No	Description	Hosted in website bhel.com (Briefly) and detailed in BHEL e-Procurement Portal as files titled
NIL	Tender Specification Issue Details	Part of Vol-I-2509
NIL	Notice Inviting Tender	Part of Vol-I-2509
I-A	Technical Conditions of Contract	Vol-IA-2509
I-B	Special Conditions of Contract	Part of Vol-I-BCD-2509
I-C	General Conditions of Contract	Part of Vol-I-BCD-2509
I-D	Forms & Procedures	Part of Vol-I-BCD-2509
I-E	Technical Annexures	Enclosed
II	Price Bid Specification as specified at E-Procurement Portal	VolIIPriceBid2501

2509

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



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dtd 15/11/2021

NOTICE INVITING E-TENDER (NIT)

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

To,

Dear Sir/Madam,

Sub : NOTICE INVITING E-TENDER

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

1.0 Salient Features of NIT

S No.	ISSUE	DESCRIPTION	
i	E-TENDER NUMBER	BHE/PW/PUR/ RGEM1-MECH ESP R&M U4 U5 U6/2509	
ii	Broad Scope of job	Mechanical Package (Dismantling Erection and Commissioning) of ESP R&M Stage II (3X500MW) Unit 4, 5 and 6 at NTPC Ramagundam	
iii	DETAILS OF TENDER DOCUMENT		
A	Volume-IA	Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc.	Applicable
B	Volume-IB	Special Conditions of Contract (SCC)	Applicable
C	Volume-IC	General Conditions of Contract (GCC)	Applicable
D	Volume-ID	Forms and Procedures	Applicable
E	Volume-IE	Technical Annexures	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 : 15/11/2021, Time : 11:00 Closes : 06/12/2021, 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	Date: 06/12/2021, Time: 11.00 Hrs • Place: on E-Tender Portal https://eprocurebhel.co.in	Applicable

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S No.	ISSUE	DESCRIPTION	
	SUBMISSION		
vi	OPENING OF TENDER (Techno-Commercial Bid)	<p>Date: 06/12/2021, Time: 17.00 Hrs</p> <p>Notes:</p> <p>(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.</p> <p>(2) Bidder may depute representative to witness the opening of tender. For e-Tender, Bidder may witness the opening of tender through e-Procurement portal only.</p>	<i>Applicable</i>
vii	EMD AMOUNT	<p>EMD amount is waived off. All the relevant clauses shall be read accordingly.</p> <p>BID SECURITY FORMAT: In view of waiver-off of EMD amount as cited above, Bidders are requested to submit the "Bid Security Declaration Format" as per Annexure-A of this NIT.</p>	<i>EMD Not Applicable</i>
viii	COST OF TENDER	<i>Free</i>	
ix	LAST DATE FOR SEEKING CLARIFICATION	<p>One day before due date of offer submission.</p> <p>Along with soft version also, addressing to undersigned & to others as per contact address given below:</p> <p>1) Name: P R Chiwarkar Designation: AGM Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Phone: Landline: +91-712-2858-633 Email :prchiwarkar@bhel.in Fax:+91-712-2858600</p> <p>2) Name: Shubhangi Tembhrune 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</p>	<i>Applicable</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)	-	<i>Not Applicable</i>
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	<p>Sh Virendra Bahadur Singh, IPS (Retd.) and Sh. Arun Chandra Verma, IPS (Retd.)</p>	<i>Applicable</i>
xii	Latest updates	<p>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com-->Tender Notifications →View Corrigendum), Central Public Procurement portal (https://eprocure.gov.in/epublish/app)</p>	

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S No.	ISSUE	DESCRIPTION
) & 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:

a. Technical Tender (UN priced Tender)

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

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

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b. Price Bid:

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

DO NOT'S

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

Digital Signing of e-Tender

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

The Requirement:

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

BHEL has finalized the e-procurement service Provider:-

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

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

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

0120-4001 002

0120-4200 462

0120-4001 005

0120-6277 787

1. Peter Raj, NIC, Ph: 9942069052

Email Support: support-eproc@nic.in

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:

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

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

Sl. no.	Description	Remarks
	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>	
i. —	Covering letter/Offer forwarding letter of Tenderer.	
ii. —	Duly filled in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. <u>Note:</u> a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained. b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender	
iii. —	Supporting documents/ annexure/ schedules/ drawing etc. as required in line with Pre-Qualification criteria. It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph. no, FAX no, etc.	
iv. —	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc. pertinent to this NIT.	
v. —	Integrity Pact Agreement (Duly signed by the authorized signatory)	If

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

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

	PART-II	
	PRICE BID 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: CONTAINING THE FOLLOWING	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	OUTER COVER	
	<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: CONTAINING THE FOLLOWING:	
i	⊖ Envelopes I	

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	<input type="radio"/> Envelopes II <input type="radio"/> Envelopes III	
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- **SPECIAL NOTE: All documents/ annexures to be submitted should be uploaded in respective places in the E-Tender portal as per the list mentioned given in this NIT. BHEL shall not be responsible for any in-complete documents.**

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

- **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The cut off month for reckoning 'Load' shall be the 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.

- **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:

- a) $P_1, P_2, P_3, P_4, P_5, \dots P_N$ etc. be the packages (under execution/ executed during the 'Period of Assessment' in all Regions of BHEL) **SIMILAR** to the packages covered under the

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tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (i.e. $P_T = P_1 + P_2 + P_3 + P_4 + \dots P_N$)

- b) Number of Months ' T_1 ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P_1 . Similarly T_2 for package P_2 , T_3 for package P_3 , etc. for the tendered scope. Now calculate cumulative total months ' T_T ' for total similar Packages ' P_T ' for all Regions (i.e. $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$)
- c) Sum ' S_1 ' of 'Monthly Performance Evaluation' Scores ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5} \dots S_{1-T_1}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e. $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots S_{1-T_1}$). Similarly, S_2 for package P_2 for period T_2 , S_3 for package P_3 for period T_3 etc. for the tendered scope for all Regions. Now calculate cumulative sum ' S_T ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' P_T ' for all Regions (i.e. ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$ ')
- d) **Overall Performance Rating ' R_{BHEL} ' for the Similar Package/Packages** (under execution/ executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL

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

= -----

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

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

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

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

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

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

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

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

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

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6	≥ 80	NA
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• **'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)

• **Explanatory note:**

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

ii). Identified Packages (Unit wise)

Table-1

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

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

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

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

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

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

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

- iv). Consequent upon applying the criteria of 'Assessment of Capacity of Bidders' detailed above on all the bidders qualified against Technical and Financial Qualification criteria, if the number of qualified bidders reduces to less than minimum no. of bidders required for conducting RA as per extant RA Guidelines, then for further processing of the Tender, BHEL at its discretion reserves the right to also consider the bidders who are "not qualified" as per criteria of 'Assessment of Capacity of Bidders' and for this, procedure described in following three options shall be followed:

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

Note:- In case, the number of bidders qualified against Technical and Financial Qualification criteria itself is less than minimum no. of bidders required for conducting RA as per extant RA Guidelines, then all bidders (a)- having Overall Performance Rating (R_{BHEL}) ≥ 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.

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

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

- vi). Contractor shall provide the latest contact details i.e. mail-ID and Correspondence Address to SCT Department, so that same can be entered in the Contractor Performance Evaluation System, and in case of any change/discrepancy same shall be informed immediately. Login Details for viewing scores in Contractor Performance Evaluation System shall be provided to the Contractor by SCT Department.
- vii). Performance Evaluation for Activity Month shall be completed in Evaluation Month (i.e. month next to Activity Month) or in rare cases in Post Evaluation Month (i.e. month next to Evaluation Month) after approval from Competent Authority. In case scores are not acceptable, Contractor can submit Review Request to GM Site/ GM Project latest by 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.
- viii). Project on Hold due to reasons not attributable to bidder -
- a. **Short hold:** Evaluation shall not be applicable for this period, however Loading will be considered.
 - b. **Long hold:** Short hold for continuous six months and beyond or hold on account of Force Majeure shall be considered as Long Hold. Evaluation as well as Loading shall not be considered for this period.
- ix). Performance evaluation as specified above in this clause is applicable to Prime bidder and Consortium partner (or Technical tie up partner) for their respective scope of work.

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

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

12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as

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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)"

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

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

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

Note:

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

Details of contact person(s):

Name: (1) P R Chiwarkar/ AGM (Purchase) 2) Shubhangi Tembhurne / Dy Manager (Purchase)
Dept.: Purchase Department
Address: Floor No. 5 & 6, Shreemohini Complex, 345 Kingsway, Nagpur-440001

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Phone: (LL/ Mobile) (1) 0712-2858633

0712-2858742

Email: prchiwarkar@bhel.in

shubh@bhel.in

Fax: 0712-2858699

- 16.0 The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre-Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorized representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 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.
- 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

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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

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total contract value. However, Prime Bidder has also option for submission of SD on behalf of consortium partner (s).

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

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

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

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

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

27.0 Guidelines/rules in respect of Suspension of Business dealings, Vendor evaluation format, Quality, Safety & HSE guidelines, Experience Certificate, etc. may undergo change from time to time and the latest one 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:

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

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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.

29.0 Micro and Small Enterprises (MSE)

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

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

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

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

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

I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent

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Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

III. "Bidder from a country which shares a land border with India" for the purpose of this Clause means: -

- a. An entity incorporated established or registered in such a country; or
- b. A subsidiary of an entity incorporated established or registered in such a country; or
- c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d. An entity whose beneficial owner is situated in such a country; or
- e. An Indian (or other) agent of such an entity; or
- f. A natural person who is a citizen of such a country; or
- g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

IV. The beneficial owner for the purpose of (III) above will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.
3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person has ownership of or entitlement to more than fifteen percent of the property or capital or profits of the such association or body of individuals.
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen

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percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

- V. *An Agent is a person employed to do any act for another, or to represent another in dealings with third person.*
- VI. *The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.*

Note:

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

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

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

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

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

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

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

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

- 35.0 Order of Precedence:

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.

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(General Manager - Purchase)

Enclosure:

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

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Annexure-A: Bid Security Declaration Format

Bid Security Declaration Form

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

To,

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

Dear Sir/Madam,

Sub: Bid Security Declaration

Ref: NIT/Tender Specification No: : BHE/PW/PUR/ RGEM1-MECH ESP R&M U4 U5 U6/2509

SCOPE OF WORK: Mechanical Package (Dismantling Erection and Commissioning) of ESP R&M Stage II (3X500MW) Unit 4, 5 and 6 at NTPC Ramagundam

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

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

Place:

Date:

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ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	Mechanical Package (Dismantling Erection and Commissioning) of ESP R&M Stage II (3X500MW) Unit 4, 5 and 6 at NTPC Ramagundam		
TENDER NO	BHE/PW/PUR/ RGEM1-MECH ESP R&M U4 U5 U6/2509		
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	<p><u>Technical Criteria:</u> B.1: Not Applicable</p> <p>B.2: Bidder shall essentially meet the Qualifying Requirements (i.e. B.2.1 OR B.2.2 OR B.2.3 OR B.2.4) as under, in last seven years from latest date of bid submission:</p> <p>B.2.1) Bidder must have executed Erection & Commissioning (E & C) of at least One Boiler (Consisting of Structure and Pressure part (of the same unit as standalone Bidder)) or ESP of 200 MW or higher rating</p> <p style="text-align: center;">OR</p> <p>B.2.2) The bidder should have executed Renovation & Modernization (R&M) of at least one unit of complete Boiler / ESP of 200MW or higher rating</p> <p style="text-align: center;">OR</p> <p>B.2.3) The bidder should have executed R&M/E&C of minimum one pass of 500MW or above capacity of Electro Static Precipitator till Charging</p> <p style="text-align: center;">OR</p> <p>B.2.4) The bidder should have executed R & M work involving erection of at least 2000 MT of one Boiler (Consisting of Structure and Pressure part (of the same unit as standalone Bidder)) /ESP in single contract in power plant rating of not less than 100 MW</p> <p>-----</p> <p>Note: 1. Job of Annual Overhauling and Capital Overhauling shall not be considered for the experience of R&M job</p>	APPLICABLE	

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	2. E&C Executed means 'Boiler Light Up' in respect of Boiler and ESP, & 'Charging of at least one pass' in respect of ESP R & M		
C.1	<p><u>FINANCIAL TURNOVER:</u></p> <p>Bidders must have achieved an average annual financial turnover (audited) of INR Rs.1029,90,000/- (Rupees Ten Crores Twenty Nine Lakhs Ninety Thousand Only) or more over last three Financial Years (FY) i.e. '2018-19, 2019-20 and 2020-21' *</p> <p>*NOTE 1: To consider last three financial years as '2017-18, 2018-19 and 2019-20', in place of '2018-19, 2019-20 and 2020-21', bidder must provide a declaration that they do not have financial (audited) statements for FY 2020-21</p> <p>Note 2: However above Note 1 shall not be applicable for NITs floated after dt:31/12/2021 for 'Assesses not subject to Audit: u/s 139(1) of the Income Tax Act, 1961'</p>	APPLICABLE	
C.2	<p><u>NETWORTH</u> (only in case of Companies)</p> <p>Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive.</p>	APPLICABLE	
C.3	<p><u>PROFIT</u></p> <p>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.</p>	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	<p>Assessment of Capacity of Bidder:</p> <p>The "Assessment of Capacity of Bidders" for this Tender shall be carried out by considering the identified similar packages as "ESP"</p>	APPLICABLE	
E	<p>Approval of Customer (if applicable)</p> <p>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</p>	APPLICABLE	
F	<p>Price Bid Opening</p> <p>Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E</p>		BY BHEL
G	Consortium tie-ups	Not APPLICABLE	

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Explanatory Notes for the PQR (unless otherwise specified in the PQR):

Explanatory Notes for PQR B.1 (Technical)

- For the criteria (B.1), actual executed value shall be considered.
- 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-

$$P = R + 0.425 \times R \times \frac{(X_N - X_0)}{X_0} + 0.425 \times R \times \frac{(Y_N - Y_0)}{Y_0}$$

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).

X₀ = 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).

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

- 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

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3. Boiler means HRSG or WHRB or any other types of Steam Generator.
4. Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass.
5. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5 TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating of the same in terms of MW shall be considered for evaluation.

Explanatory Notes for PQR -C (Financial):

C-1:

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

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

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

Net worth = Paid up share capital + Reserves

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

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

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

Common Explanatory Notes:

1. For evaluation of PQR, in case Bidder alone does not meet the pre-qualifying technical criteria B1 above, bidder may utilize the experience of its Parent/ Subsidiary Company along with its own experience, subject to following:
 - a. The parent company shall have a controlling stake of $\geq 50\%$ in the subsidiary company (as per Format-1).
 - b. The Parent Company/ Subsidiary Company of which experience is being utilized for bidding shall submit Security Deposit(SD) equivalent to 1% of the total contract value
 - c. The parent/ subsidiary company and bidder shall provide an undertaking that they are jointly or severally responsible for successful performance of the contract (as per Format-2).
 - d. In case Bidder is submitting bid as a Consortium Partner, option of utilizing experience of parent/subsidiary Company can be availed by Prime Bidder only.
 - e. Parent Company/ Subsidiary Company of which experience is being used for bidding, cannot participate as a 'Standalone Bidder' or as a 'Consortium bidder'.

2. **Completion date for achievement of the technical criteria specified in the Common QR should be in the last 7 years ending on the 'latest date of Bid Submission' of Tender irrespective of date of the start of work. Completion date shall be reckoned from the "FY quarter of bid submission"**

(For e.g – Work completed on 01.01.2014 shall be considered even if latest date of

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bid submission is 20.03.2021)

3. "Executed" means the bidder should have achieved the technical criteria specified in the Common QR even if the Contract has not been completed or closed.
 4. In case the Experience/PO/WO certificate enclosed by bidders do not have separate break up of prices for the E&C portion for Electrical and C&I works (i.e. the certificates enclosed are for composite order for supply and erection of Electrical and C&I and other works if any), then value of Erection & Commissioning for the Electrical and C&I portion shall be considered as 15% of the price for supply & erection of Electrical and C&I.
 5. Following shall be complied with in case of consortium:
 - a. The Prime Bidder and Consortium Partner(s) are required to enter in to a consortium agreement and certify to BHEL regarding existence and validity of their consortium agreement in line with validity period mentioned in NIT.
 - b. Prime Bidder and Consortium partners shall be approved by Customer for being considered for the tender (applicable if customer approval is required).
 - c. Number of partners including prime Bidder shall be NOT more than 3 (three).
 - d. Prime Bidder alone shall necessarily comply with "B1 Technical Criteria" except for mechanical package where B1 criteria is not applicable.
 - e. Prime Bidder and Consortium Partner shall together comply with the 'Pre-Qualification Requirements' specified for the respective category of technical requirement as per "B2 technical criteria".
 - f. Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified.
 - g. All other conditions shall be read in conjunction with clause no 23.0 of NIT.
 - h. Prime Bidder shall be the Bidder who has a major share of work.
 - i. Prime Bidder shall be responsible for the overall execution of the Contract.
 - j. Performance shall be evaluated for Prime Bidder and the Consortium partner for their respective scope of work.
 - k. In case the Consortium partner backs out, another consortium partner meeting the QRs, has to be engaged by Prime Bidder and if not, the respective work will be withdrawn and executed on risk and cost basis of the prime bidder.
 - l. In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHEL
 - m. After successful execution of one work with a consortium partner under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.
- 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.2.1 OR B.2.2 OR B.2.3 OR B.2.4 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, Format2

NA

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ANNEXURE - 2

CHECK LIST

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

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: <u>Please tick (√) whichever applicable:-</u> ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/ Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/ Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc. are read understood and signed	Applicable/ Not Applicable	YES/NO
10	Integrity Pact	Applicable/ Not Applicable	YES/NO
11	Declaration by 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/ Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/ Not Applicable	YES/ NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement 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 Laacs
2. ~~For Service Enterprises:~~ Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the **MSMED** Act, 2006:
Rs Laacs
3. ~~For Enterprises~~ (having EM - II Certificate/ valid NSIC Certificate or Udyog Aadhar Memorandum): Investment in plant and machinery or equipment is Rs Laacs and turnover is Rs. Laacs (as notified in MSME notification no. S.O. 2119 (E) dated 26.06.2020)
4. ~~For Enterprises~~ (having EM - II Certificate/ valid NSIC Certificate or Udyog Aadhar Memorandum): Investment in plant and machinery or equipment is Rs Laacs and turnover is Rs. Laacs (as notified in MSME notification no. S.O. 2119 (E) dated 26.06.2020)

(Strike off whichever is not applicable)

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

Or

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

Or

The enterprise has been reverse graduated from its original category (micro/small/medium) (*strike off which is not applicable*), the enterprise will continue in its present category till the closure of the financial year and it will be given the benefit of the changed status only with effect from 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

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

Sub: Agreement to the Process related Terms and Conditions

Dear Sir,

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

This letter is to confirm that:

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

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

With regards

Signature with company seal

Name:

Company / Organization:

Designation within Company / Organization:

Address of Company / Organization:

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

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ANNEXURE – 5

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

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

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ANNEXURE – 6

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

To

- M/s. Service provider
- Postal address

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

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

Dear Sir,

We confirm that we have quoted.

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

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

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

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

Yours sincerely,

For _____

Name:

Company:

Date:

Seal:

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ANNEXURE – 7

INTEGRITY PACT

Between

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

And

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

Preamble

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

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

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

Section 1 - Commitments of the Principal

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

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

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

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

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

Section 4 – Compensation for Damages

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

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Section 5 – Previous Transgression

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

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

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

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

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

Section – 8 Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractors(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sib-contractor(s) with confidentiality in line with Non-disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meeting could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not

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consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.

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

Section 9 – Pact Duration

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

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

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

For & On Behalf of the Principal

(Office Seal)

For & On Behalf of the Bidder/ Contractor

(Office Seal)

Place -----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____

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ANNEXURE – 8

UNDERTAKING

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

To,

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

Dear Sir/Madam,

Sub: DECLARATION REGARDING INSOLVENCY/ LIQUIDATION/ BANKRUPTCY PROCEEDINGS

Ref: NIT/Tender Specification No: BHE/PW/PUR/ RGEM1-MECH ESP R&M U4 U5 U6/2509

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:

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

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Annexure-11

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

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

To,

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

Dear Sir,

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

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

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

(a) is not from such a country / ☐

(b) has been registered with the Competent Authority *(attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT));* ☐

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

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

Thanking you,
Yours faithfully,

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

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

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Annexure-12: IMPORTANT INFORMATION

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

Postal Address:

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

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

GM Purchase, Email: prchiwarkar@bhel.in. Ph: +91 – 712 – 2858 – 633

Sr Manager, Purchase, Email: kamleshbhel@bhel.in +91 – 712 – 2858 – 645

Dy Manager Purchase, Email: shubh@bhel.in Ph: +91-712 – 2858 –742

Manager Purchase, Email: svm@bhel.in Ph: +91 – 712 – 2858 –715

1. **Refer Chapter XII of Volume IB Special Conditions of Contract regarding Suspension of Business Dealings:** The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' has now been uploaded on www.bhel.com 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

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Canara Bank
Citi Bank N.A.
Corporation Bank
Deutsche Bank
HDFC Bank Ltd.
The Hongkong and Shanghai Banking Corporation Ltd
ICICI Bank Ltd.
IDBI Ltd.
Punjab National Bank
Standard Chartered Bank
State Bank of Travancore
State Bank of Hyderabad
Syndicate Bank

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

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

8. Broad Terms & Conditions of Reverse Auction:

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

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) (<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. Performance Guarantee Period For Each Unit: As per Clause no 2.24 of General Conditions of contract** with the amendment of The guarantee period of Eighteen (18) months shall commence from the date of Completion of facilities (or any part thereof) or twelve (12) months from the date of Operational Acceptance of facilities (or any part thereof), whichever is earlier (Provided all erection, testing, and commissioning works are completed in all respects).

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11. **PVC Base Date: 2.17.5 of GCC to be read as:** Base date shall be calendar month of the bid submission date + bid validity period + scheduled contractual completion period as per letter of intent/ award and/or work order.

12. Modality of Award/Operation:

Subject job consist of R&M works of 3 Units of 500 MW ESPs. For ease of operation of the contract, following modality for execution of contract/award is adopted:

1. This is a common tender all the 3 Units.
2. **VOL-II Price bid is invited for Grand total of all the three Units (Unit 4, Unit 5 and Unit 6).**
3. All the three units shall be awarded to one agency. However for ease of operation, work orders/LOAs for all the three units shall be issued separately and three units shall be reckoned as separate contracts during operation of the contracts (i.e. 3 sub-sets of 1 main contract of 3 units) with separate contract period (18 months each), separate start dates and separate contract value.
4. All the records of the contracts viz Measurement of work, progress monitoring, monthly review, performance evaluation etc shall be maintained for all the three units/contracts separately.
5. Accordingly various clauses of GCC viz SD, LD, PVC, ORC, Time Extension, retention amount, guarantee period, Quantity Variation, Final Bill etc shall be applicable separately for individual units/Contracts.
6. ORC shall also be applicable for individual Units/Contracts separately. Towards this, Clause No 2.12.3 of GCC is proposed to be amended such that the lower & upper limit of applicable ORC is reduced by 1/3rd considering the award of three contracts. Amendments are as below:
 - 2.12.3.5: The maximum amount of ORC payable for the month shall be limited to Rs. 1,66,000/-.
 - In 2.12.3.6: Rs. 1,00,000/- is amended (to be read) as Rs. 33,000/-
 - In 2.12.3.7: Rs. 1,00,000/- is amended (to be read) as Rs. 33,000/-
 - All the other relevant clauses to read accordingly.

13. LD clause no. 2.7.9 of standard GCC: LIQUIDATED DAMAGES/PENALTY: is amended as below:

At the end of total work completion as certified by BHEL Engineer, and upon analysis of the total delay, the portion of time extensions attributable to (i) Contractor alone, (ii) Force majeure conditions, and (iii) BHEL, shall be worked out. The total period of time extensions shall be the sum of (i), (ii) and (iii) above and shall be equal to period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/levied for the portion of time extensions solely attributable to contractor and recoverable from the dues payable to the contractor.

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If the contractor fails to maintain the required progress of work which results in delay in the completion of the work as per the contractual completion period, BHEL shall have the right to impose Liquidated Damage/Penalty.

- A) If the contractor fails to achieve the successful completion of the unit due to reason solely attributable to the contractor, then the contractor shall pay as Liquidated Damages, and not as penalty, a sum of US Dollars 8743 /- (US Dollars Eight Thousand Seven Hundred and Forty-Three Only) or equivalent amount in proportionate contract currencies if different from US Dollars based on Bill selling exchange rate of SBI prevailing as on Mar-2020 for each day of delay in successful completion of facilities for each unit**
- B) If the contractor fails to complete all the identified shutdown works within time from the date of commencement of shutdown for each unit for reason solely attributable to contractor then the contractor shall pay as Liquidated Damages, and not as penalty, a sum of US Dollars 8743 /- (US Dollars Eight Thousand Seven Hundred and Forty-Three Only) or equivalent amount in proportionate contract currencies if different from US Dollars based on Bill selling exchange rate of SBI prevailing as on Mar-2020 for each day of extension in shutdown period.**

Above A) and (B) are independent of each other and are applicable separately

The amount of liquidated damages for extension in shutdown period and delay in completion of all facilities combined together shall be subject to a maximum of 10% of the total contract value.

For this purpose, the period for which LD is applicable shall be worked out based on portion of time extension granted solely attributable to contractor at the end of the contract. Contract Value for this purpose, shall be the final executed value exclusive of ORC, Extra Works executed on Manday rate basis, Supplementary/Additional Items and PVC.

In case of LD recovery, the applicable GST shall also be recovered from contractor.

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TECHNICAL CONDITIONS OF CONTRACT (TCC)



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter I Project Information

NTPC RAMAGUNDAM STAGE-II (3X500MW) ESP Renovation and Retrofitting

1. Project Information

Project Name: 3x500 MW (Stage-II) NTPC Ramagundam ESP Renovation and Retrofitting.

The details of the site are as follows:

Sl. No.	Description	
1	Project Name	NTPC Ramagundam Stage-II, Unit#4,5&6 (3x500MW) ESP R&M
2	Location	Ramagundam (Telangana)
3	District	Peddapalli
4	Nearest cities	60 KMs from Karimnagar Town, 100 KMs from Warangal and 210 KMs from Hyderabad
5	Nearest Railway Station	Ramagundam
6	Nearest Airport	Hyderabad
7	Units in Stage-II	Three units (4, 5 & 6) each of 500 MW. Commissioned in year 1988-89 period

The Bidder shall visit site and get acquainted himself with the conditions prevailing at site before submission of the bid. The information's given here in under are for general guidance and shall not be contractually binding on BHEL/ Owner. All relevant site data's/information's as may be necessary shall have to be obtained/ collected by the Bidder.

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Chapter - II: Scope of Works

Renovation & Retrofitting of ESP of NTPC Ramagundam stage-II TPS Unit # 4,5 & 6 (3X500MW)

Scope of Work:

Dismantling of existing ESP Internals & other components, disposal of the same to scrap yard, collection of materials and transportation of materials from customer storage to site of work and carrying out modifications as required, Erection, Testing & commissioning and application of Insulation/cladding, Painting for the work of Renovation & Retrofitting of existing Electrostatic Precipitators & ducts for Unit#4,5 & 6 (3X500MW) sets at NTPC Ramagundam stage-II.

The ESPs of stage-II units were supplied by BHEL. Each unit has Four (04) Electrostatic Precipitators. The objective of ESP R & M is to enhance the efficiency of dust collection of existing ESPs. NTPC intends to take up Renovation & Retrofitting of existing ESPs to meet the latest environmental norms of Pollution Control Board to reduce the emission level to <80mg/Nm³ in stage-II units

The existing ESP field height will be increased and one number new field will be added at ESP outlet side. The ESP internals will be replaced with latest 400 mm spacing design. Existing ESP supporting structures, hoppers, casing, inlet ducting system, portion of outlet duct, ID fan inlet bus duct, etc. are retained. Existing ESP outlet duct will be modified and duct support structure at ESP outlet will be dismantled for installing one new field.

Each existing ESP consists of six fields in series and each ESP consists of two bus sections across the gas flow. The existing ESP field height will be increased and one number new field will be added at ESP outlet. Modified ESP consists of seven fields in series.

The ESP internals for all fields will be provided with latest 400 mm pitch design with 750 mm wide, 16.5 m height collecting electrode, discharge electrode of spiral type stainless steel wire 2.7 mm dia Existing ESP casing will be extended vertically to accommodate 16.5 m height field internals and extended horizontally at ESP outlet side to add one number new field.

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Portion of ESP outlet duct will be dismantled and duct support structure at ESP outlet will be dismantled for installing new additional field.

The existing ESP pent house, roof mounted equipments such as HVTR, disconnecting switch, insulators, discharge electrode rapping motor will be dismantled. The dismantled structural materials of pent house, ESP roof and rectifier handling system will be reused.

The existing supporting structures, hoppers, casing & its structures, inlet duct from APH outlet to ESP inlet and portion of ESP outlet duct, ID fan inlet bus duct, ID fan inlet duct and its structures etc. are retained.

A) ESP

1. The existing precipitator casing will be extended vertically to install 16.5 m height field internals and extended horizontally at ESP outlet to add one no. new field in series. Existing ESP casing retained.
2. Extended casing will be fabricated from 5 mm thick mild steel plate ASTM A36 or equivalent adequately reinforced with vertical columns and intermediate stiffeners to withstand the negative pressure and earthquake. The extended casing is provided with access doors.
3. Bottom diagonal bracings in ESP inlet casing support structure for first fields in all ESP passes.
4. Existing ESP hoppers retained.
5. New pyramidal ash collection hoppers for new additional field made of 5 mm thick plate, outlet flanges, poke holes, access doors and heaters.
6. Ash level indicator (Radio frequency type) for high, middle and low level for existing hoppers and new hoppers as per tender.
7. Set of gas distribution screens consisting of double screen arrangement at the inlet of GD housing, third screen near inlet funnel and a single screen arrangement at the outlet of each casing. The double screen arrangement at inlet GD housing is provided with rapping system.
8. Insulators - each set consisting of 4 support insulators for each emitting system, 1 shaft insulator for each emitting rapping mechanism and one bushing insulator for direct connection to the transformer/rectifier.
9. High voltage emitting system consisting of frame work supported from insulators, emitting electrodes of spiral type made out of stainless steel wires and rapping mechanism including rapping shafts, shaft insulators, angularly displaced tumbling hammers, drives arrangements and geared motor.

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10. Collecting electrode system consisting of supporting arrangement, collecting electrodes fabricated from roll-formed sheets of 18 BWG thick mild steel, rapping mechanism including shock bars, rapping shafts, angularly displaced tumbling hammers, drive arrangement and geared motor.
11. Set of Insulator housings complete with ducting to each transformer. The insulator compartments are of double walled construction with thermal insulation and are provided with access doors for inspection and service of support insulators of the emitting system.
12. High voltage bus duct connections between the transformer rectifier and the high Voltage emitting system complete with bushing insulator and disconnecting switches.
13. Gas screening plates for casing and hoppers.
14. One set of slide supports to take care of casing thermal expansions for new field.
15. Existing supporting structures are retained.
16. Set of precipitator supporting structure consisting of pre-fabricated columns, cross ties, foot plates and foundation bolts for new additional field at ESP outlet.
17. New longitudinal roof beams and transverse roof beams for all fields.
18. New outlet funnel fabricated from 5 mm thick mild steel plate reinforced with beams, stiffeners and complete with splitters. Existing inlet funnel modified.
19. ESP outer roof fabricated from chequered plate of 5 mm thickness (existing outer roof in good condition will be reused).
20. Existing test connections in the inlet duct retained.
21. Set of test connections in the outlet duct for the measurement of velocity, temperature and dust concentration.
22. Existing water washing system retained for use and extended for new additional field.
23. 95 kV (peak) / 1000 mA (56 Nos.) Silicon oil immersed transformer rectifier units with conservator and with oil pan and associated accessories

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24. Reduced continuous area for canopy over ESP TR set with roof covered sheet 0.6 mm color coated sheet for weather protection will be provided. Existing pent house will be dismantled and dismantled steel structures will be reused.
25. Panet type heating element for existing ESP hoppers and additional new field hoppers (10 kW/hopper) with thermostat and wrap around heaters 0.5 kW will also be provided.
26. Tubular type electrical heating elements for support insulators along with thermostat and tubular type electrical heating element alone for shaft insulators.
27. Four (4) sets of electrically operated hoist for lifting & handling of Transformer rectifier sets mounted on the precipitator roof (existing steel structures for lifting & handling arrangement will be reused).
28. Supply of 6 mm MS plate & structural steel for repair of existing duct work from APH outlet flange to Inlet of expansion joints at ID fan(s) inlet, ESP casing, inlet & outlet cone, hoppers based on condition assessment.
29. New thermal insulation for precipitator walls, roof panels, hoppers and funnels, ducts with 75 mm thick lightly resin bonded mineral wool mattress of 100 kg/m³ bulk density and Insulation cladding material made up of 0.71 mm thick (22 SWG) plain Aluminum sheet and other fixing materials like studs, retainers etc. for complete ESP.
30. If required Patch work in ducting and hoppers of existing passes during erection and commissioning at no extra cost to BHEL.
31. Restoration/ replacements of all the fouling structures, piping, cables, etc. as per requirement of retrofitting scheme/design of retrofitted ESP after renovation and modernization.
32. Conductance of Air Tightness test of ESP and Ducting as per BHEL procedure
33. Replacement of Heating elements of hopper heater
34. Erection of Monorail beams , hoist as per BHEL drawings/ documents and commissioning of all erected hoists
35. High voltage bus duct connection between the transformer rectifier and high voltage emitting system complete with bushing insulator and disconnecting Switch.

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36. Painting of all newly erected and refurbished Structures/Equipment/Ducts/Components or any other specific painting requirement including supply of paint as directed by BHEL engineer shall be in bidder's scope.
37. Modification/repair/replacement of the ductwork to arrest leakage between terminal points (APH outlet flange to inlet of expansion joints at ID fan(s) inlet) of ESP fields of each unit of Stage-II)
38. Painting of existing structures of ESP/ Duct Supporting structure (If required) including supply of paint shall be in bidder's scope
39. Manpower Assistance in GD test
40. Arrangement for conductance of GD Test shall be in contractor scope (Arrangement of scaffolding, Temporary Platform, Approach platforms for measurement/ taking reading etc...)

B) SCOPE FOR DUCTING SYSTEM:

1. From APH outlet to ESP inlet: The existing duct from APH outlet to ESP inlet duct along with supporting structure will be retained. Refurbishing the duct will be done based on condition assessment using the supplied materials as per BHEL provided drawings.
2. From ESP outlet to ID fan inlet: The existing ESP outlet duct modified. ID fan inlet duct including ID fan bus duct along with supporting structure will be retained. Refurbishing of retained duct will be done based on drawings provided by BHEL
3. New (Metallic type) expansion joints (at ESP inlet and outlet)
4. New Guillotine gates with electrical actuator (ESP inlet and outlet)
5. Replacement of thermal insulation for ducts between APH outlet to ID fan inlet with I-RB mineral wool of thickness 75 mm with wool fixing material and 0.71 mm (22 SWG) thick plain aluminum cladding sheet
6. Erection of Dummy plates for bypassing the duct at ESP outlet side of 500MW Units is in bidder scope of work.

C) Duct modifications to suit the new and renovated ESP:

The existing ducts to be dismantled and modified to suit the new ESP and as well as modified /renovated ESP. The ducting materials will be supplied by BHEL free of cost as erection materials. Necessary works like fabrications, preassembly, erection, testing and commissioning to be carried out by bidder, if required. The old and removed duct materials have to be re used for certain modifications as per

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instruction of engineer. The work involves in re- location of duct expansion joints, gates/dampers as required for satisfactory completion of work.

Note: The erection of re-used/ relocated material shall be paid as per applicable rates of erection in schedule of Rates. Rate for Restoration/ replacements of Piping shall be as per Rates Schedule of NPP.

D) Dismantling of existing ESP Facilities: The scope of work under the subject tender shall include:

SI No	DESCRIPTION	WEIGHT PER ESP
1	<p><u>Mechanical items Existing ESP:</u></p> <p>Existing four passes 100 % internal of (48 fields), PGMA wise i.e. Gas distributor screen at inlet and outlet Emitting electrode, rapping drive including gear motor, arrangement for emitting system, emitting frame Collecting electrode, collecting suspension, shock bars, collecting electrode rapping mechanism, drive arrangement, ESP inlet funnel (Top plate only), outlet funnel, roof beam, outer roof and inner roof, ESP pent house</p>	3150 MT
	<p><i>Dismantling of insulation & cladding sheet for total ESP system</i></p>	210 MT
	<p>Dismantling of ESP outlet duct, Replacement of total expansion joints Dismantling of existing One row duct supporting structure at ESP outlet</p>	150 MT
	<p><i>Dismantling of insulation & cladding sheet for ducts between APH outlet and ID fan inlet</i></p>	70 MT
	<p>Dismantling of existing gates & actuators (8 Nos.)</p>	65 MT
	<p><u>Electrical items for Existing ESP:</u></p> <p>Electrical items to be dismantled including transformer rectifier, Rapping motor, hopper heater, ash level indicators and Support & shaft insulator over the ESP. All existing ESP LTMSB and ACP panels & its controllers, EC Panels inside the control room, LT power & Control cables, and Earthing Materials. Existing cable trays retained for reuse.</p>	355 MT

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2	ESP dismantling weight (Approx. weight) per boiler	4000 MT per ESP
3	Total ESP dismantling weight (Approx. weight) for three ESPs	=4000x3 = 12000 MT

- a. Dismantling of ESP Control Room AC ducting including structure and any other equipment/panel/component/approach Platform/structure/Illumination etc of ESP (Not specified here but required as per site requirement or for satisfactory completion of work) within the terminal points shall be in the scope of bidder.
- b. Disposal of scrap after dismantling from site to the customer/BHEL designated space inside the plant shall be the part of scope.

NOTE:

- a. Any allied work to the scope of work of the subject tender, not specifically stated but required to be carried out in order to complete the subject works will be in the scope of Contractor.
- b. Supply of paint (Enamel and Heat resistant Aluminium paint) for painting of all newly erected and refurbished Structures/ Equipment/ Ducts/ Components or any other specific painting requirement will be in the scope of Contractor.

E) T&P, cranes, Rrection Tools etc

All the tools tackle, Cranes (as per **Chapter – IV T&P and MME to be deployed by contractor**), Derrick's arrangements required for satisfactory and safe execution of work to be arranged by contractor at his cost. BHEL will provide open space for their office. The quoted rate includes entire completion of work including arrangements for labor colony forms their workers stay & their transportation.

Due to confined space, there may be most of the areas being non-approachable by crane. Agency has to use improvised methods for dismantling and assembly / erection/ derrick method of various equipment components etc. to complete the erection of new ESP & retrofitting work. These methods may include tying of ropes through existing structures /equipment such as chimney, conveyor structure and other available structures etc after taking due approval from BHEL Engineer. At some locations, such structures are not available and crane also cannot approach .In such cases, derrick arrangement to be made for dismantling and erection. Bidders are strongly advised to visit the site along with BHEL officials to assess the possibility of using alternate arrangements apart from crane. No separate payment

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shall be made for any such arrangements used during the execution of the contract. All safety precautions have to be taken for such alternate arrangements and no damage should be caused to the existing equipment, structure, customer property etc.

All the above activities included in the quoted rate. No separate amount will be paid for any work.

Special notes: Bidders are strongly advised to visit the site to acquaint themselves with the working conditions and the requirements for execution of the job.

F) Miscellaneous works:

As the work is to be carried out in running plant with confined space, miscellaneous works like shifting/ rerouting of ducts, pipes, will have to be carried out during shutdown period for facilitating the retrofit work. Such works have to be carried out under supervisions and guidance of customer and BHEL.

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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	
1.3.1.1.0	Establishment			
1.3.1.1.1	FOR CONSTRUCTION PURPOSE:			
A	Open space for office	Yes		Free of Charge
B	Open space for storage	Yes		Free of Charge
C	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
D	Bidder's all office equipments, office / store / canteen consumables		Yes	
E	Canteen facilities for the bidder's staff, supervisors and engineers etc.		Yes	
F	Fire fighting equipments like buckets, extinguishers etc.		Yes	
G	Fencing of storage area, office, canteen etc. of the bidder		Yes	
1.3.1.1.2	FOR LIVING PURPOSES OF THE BIDDER			
A	Open space		Yes	
B	Living accommodation		Yes	Land for staff and labour colony shall be arranged by contractor and has to make his own arrangements at his own cost
1.3.1.2.0	Electricity			
1.3.1.2.1	Electricity For construction purposes			
1.3.1.2.1.1	Single point source	Yes		415 V , Free of Charge

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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	
1.3.1.2.1.2	Further distribution for the work to be done which include supply of materials and execution. ELCB /RCCB is to be installed in the main supply panel, All electrical installation should be verified and certified by electrical registered contractor. Energy meter is to be installed in the LT Distribution Panel.		Yes	Minimum drawl power factor 0.8
1.3.1.2.2	Electricity for the office, stores, canteen etc. of the bidder which include:	Yes		Chargeable Basis as per NTPC Norms
1.3.1.2.2.1	Distribution from single point including supply of materials and service		Yes	
1.3.1.2.2.2	Supply, installation and connection of material of energy meter including operation and maintenance		Yes	
1.3.1.2.2.3	Duties and deposits including statutory clearances for the above		Yes	
1.3.1.2.2.4	Living facilities for office use including charges		Yes	
1.3.1.2.2.5	Demobilization of the facilities after completion of works		Yes	
1.3.1.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc on the above lines.(in case BHEL provides this facility, the scope should be given without ambiguity)		Yes	
1.3.1.3.0	Water Supply			
1.3.1.3.1	For construction purposes:			
1.3.1.3.1.1	Making the water available at single point	Yes		Free of Charge
1.3.1.3.1.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	
1.3.1.3.2	Water supply for bidder's office, stores, canteen etc.	Yes		Free of Charge
1.3.1.4.0	LIGHTING			

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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	
1.3.1.4.1	For construction work (supply of all the necessary materials) At office storage area At the preassembly area At the construction site /area		Yes	
1.3.1.4.2	For construction work (Execution of the lighting work / arrangements) At office storage area At the preassembly area At the construction site /area		Yes	
1.3.1.5.0	COMMUNICATION FACILITIES for site operations of the bidder	-		
1.3.1.5.1	Telephone, Fax, internet, intranet, email etc		Yes	
1.3.1.6.0	COMPRESSED AIR SUPPLY			
1.3.1.6.1	Supply of Compressor and all other equipments required for compressor & compressed air system including pipes, valves, storage systems etc	Yes		
1.3.1.6.2	Installation of above system and operation & maintenance of the same	-		
1.3.1.6.3	Supply of the all the consumables for the above system during the contract period			
	Erection Facilities			
1.3.2.1.0	Engineering works for construction			
1.3.2.1.1	Providing the erection drawings for all the equipments covered under this scope	Yes		
1.3.2.1.2	Drawings for construction methods		Yes	In consultation with BHEL
1.3.2.1.3	As-built drawings – wherever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes	Yes	Yes	”

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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	
1.3.2.1.4	Shipping lists etc. for reference and planning the activities	Yes		"
1.3.2.1.5	Preparation of site erection schedules and other input requirements		Yes	"
1.3.2.1.6	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	
1.3.2.1.7	Weekly erection schedules		Yes	
1.3.2.1.8	Daily erection / work plan		Yes	For daily monitoring meeting at site
1.3.2.1.9	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
1.3.2.1.10	Preparation of preassembly bay		Yes	

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CHAPTER – IV T&P and MME TO BE DEPLOYED BY CONTRACTOR

T&PS and MMEs to be deployed by Contractor **(For Each Unit)**

The following minimum minor Tools & Plants shall be Deployed by The Contractor:

Sl. No	Description Of Equipment	Capacity	Minimum Quantity (For Each Unit)	Remarks
01	New generation Pick & carry type tyre mounted mobile crane. (Farana). (Hydra is not allowed.)	18 T	02	To be deployed as per instruction of BHEL engineer
01	New generation Pick & carry type tyre mounted mobile crane. (Farana). (Hydra is not allowed.)	14 T	01	To be deployed as per instruction of BHEL engineer
02	Self-drilling cum tapping machine for screws of floor grill & roof sheeting	as required	02	To be deployed at appropriate stage of work as per instruction of BHEL engineer
03	3 Phase distribution board with complete set up for drawing construction power, fitted with energy meter	As required	As required	As required and as per instruction of BHEL engineer
04	Welding Generator (Electric & Diesel)	300 AMPS	As required	To be deployed progressively as per instruction of BHEL engineer
05	Electric Winch	1 Ton/ 2 Ton / 3 Tons / 5Ton	05 (Total)	To be deployed progressively as per instruction of BHEL engineer
06	Electric cable for drawal & distribution of construction power	As required	As required	To be deployed from beginning of start of material handling till completion
07	Baking Oven and Holding Oven with thermostat and temperature gauge for baking coated welding electrodes	As required	01 Set each	To be deployed from beginning of project
08	Portable Oven for coated welding electrodes	As required	As required	To be deployed from beginning of project

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

09	Trailer with prime mover	Adequate capacity	1	While furnishing the deployment plans for these items, the need for transport of material received on godown delivery basis is to be kept in view. Vehicles deployed should have valid statutory documents at all times
10	Tractor with Trolley	Adequate capacity	1 No	
11	Slings, 'D'-Shackles, Hydraulic Jacks, Etc.	As required	As required	With test reports
12	Scaffolding Pipes		In adequate quantity as per BHEL engineer	To be deployed from beginning of project
13	Huck Bolting Machine complete set with spares	As Required	12mm 16mm	As per Requirement in consultation with BHEL Engineer
14	Plasma Cutting Set	Suitable to cut plate thickness upto 25mm	4 nos	To be deployed from beginning of project
15	Safety net	As required	As required	To be deployed from beginning of project
16	Spanner Sets Ring/D	As required	As required	
17	Oxy Acetelyne Gas cutting Machine	As required	Adequate nos.	
18	Radiography arrangement with radioactive isotope source	Iridium-192	As required	
19	Theodolite of required accuracy	To ensure verticality of structural columns.	As required	
20	Radiography film viewer	As required	As required	
21	Pipe chamfering machine /Tube Cutting	4-14"	As required	

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

22	Pipe chamfering machine /Tube Cutting	14-20"	As required	
23	Pipe cutting & beveling machines	As Required	Adequate nos.	
24	Chain pulley blocks of various & Suitable capacities	As Required	As Required	
25	Profile making M/c	For aluminium sheet cladding work	As required	
26	Nibbling M/c	For refractory and other required activities	As required	
27	Shearing M/c		As required	
28	Portable grinding M/c	As required	As required	
29	Portable drilling M/c	As required	As required	
30	Hoisting and pulley devices/pulleys	As required	As required	
31	Fire retardant tarpaulins	As required	As required	
32	Fire extinguisher	As required	as required	
33	Alco meter for paint thickness checking	As required	As required	

The above list is tentative. The contractor has to provide required type and capacity of T&P, cranes/lifting tools for satisfactory completion of work.

Note A:

1. Depending upon the nature of work and availability of facilities locally, contractor may have to arrange for a temporary workshop for facilitating uninterrupted progress of work
2. All the Minor T&Ps required for this scope of work, except the T&Ps provided by BHEL are to be arranged by the contractor within the quoted rates.
3. Also refer relevant clauses in SCC

Note B:

1. **All above T&Ps are to be deployed by contractor as and when required as per instruction of BHEL engineer. If works gets delayed due to non-availability of above T&Ps, BHEL reserves the right to deploy the same and recover the charges thereof from the contractor as per prevailing market rate/hiring rate/BHEL internal hiring rates, as the case may be, + Applicable overhead rates.**
2. This above list of T&Ps is only indicative and neither exhaustive nor limiting. Quantities indicated above are only the minimum required. Contractor shall deploy all necessary T&P to meet the schedules & as prescribed by BHEL engineer and required for completion of work.

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

3. Depending upon the nature of work and availability of facilities locally, contractor may have to arrange for a temporary workshop for facilitating uninterrupted progress of work.
4. Necessary electrical / water / air connection required for operation of any of the tools & tackles shall be to Contractors account.
5. Contractor has to submit the Calibration certificates of all the precision Equipment to BHEL. BHEL may ask for recalibration of the MME"s /precision equipments for ensuring quality of work. Contractor must re ascertain/ recheck range and accuracy of each IMTE from BHEL Engineer well in advance before arranging calibration/ deployment.
6. Any T&Ps, Slings, D-shackles and other lifting tackles, Trailers required for shifting of material from store to site shall be arranged by contractor over and above T&P"s/ crane provided by BHEL.
7. **Considering operational safety, the use of material handling equipment "HYDRA" is banned, agencies has to deploy the Pick & Carry cranes (Farana) of required capacity.**

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Chapter – V: T&Ps & MMEs to be deployed by BHEL on sharing basis

List of T&P to be provided by BHEL Free of Hire Charges on sharing basis:

SI No	Description & Capacity of T&P	Capacity	Quantity	Remarks
1	Tyre Mounted Telescopic Boom Crane	Adequate capacity (200 MT or Above)	1 No	Major cranes, if required i.e. above 75MT, for mentioned work will be arranged by BHEL as per requirement.
2	Tower Crane	Adequate capacity >10 MT	1 No	

1. Above T&P will be provided on sharing basis only. Contractor has to plan his activities well in advance and inform BHEL Engineer in charge/ Construction Manager the date of actual use. The decision of BHEL Engineer in-charge/CM on this will be final and binding.
2. The cranes mentioned at above the table will be provided as per requirement on sharing basis at the discretion of the BHEL Engineer.
3. Necessary electrical / water / air connection required for operation of any of the BHEL's T & Ps shall be Contractor's account. All the distribution boards, connecting cables, hoses etc., and temporary connection work including electrical connections shall have to be arranged by the contractor at his cost
4. Contractor shall transport from BHEL stores, install, operate, carry out maintenance, dismantle after use and return to BHEL stores all T&Ps
5. The cranes may be BHEL owned or may be obtained on hiring basis including operating and maintenance crew.
6. Operator and O&M for BHEL owned crane will be provided by BHEL.
7. Operator and O&M for hired crane will be provided by the hiring agency.
8. Foundation for Tower crane will be provided by BHEL
9. Contractor shall provide the fuel for BHEL provided cranes (Hired/owned) for his use. Lubricants for crane (hired/owned) shall be provided by the BHEL.
10. Contractor shall provide necessary manpower assistance for initial and final assembly & dismantling and for subsequent operations of boom extension and reduction during execution of work. Contractor shall also make necessary arrangements like laying of special sleeper beds and steel plates (**sleepers for BHEL owned/hired cranes shall be provided by the BHEL**) for movement of the crane.
11. Cranes provided by BHEL will be on sharing basis with other agencies / contractors of BHEL. The allocation of cranes shall be the discretion of BHEL engineer, which shall be binding on the contractor. Cranes will be deployed at appropriate time as decided by BHEL for suitable duration and intended purpose. Augmentation of BHEL T & P under special circumstances shall be discretion of BHEL

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Chapter – VI: Time Schedule

6.1 INITIAL MOBILIZATION : After receipt of fax LOI, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall reach site, carry out kickoff meeting, make his site establishment and be ready to commence the erection work **within 15 days from the date of issue of Letter of Intent** or as per the directions of Construction Manager/ Project Manager of BHEL. Such resources shall be progressively augmented to match the schedule of milestones and commissioning.

6.2 Completion Period: The entire work of Dismantling, Erection, Testing and Commissioning of Electrostatic Precipitator and ducts including Supply and Application of Final Painting for one unit of 500 MW set at NTPC-Ramagundam, Telangana as detailed in the Tender Specification shall be completed within **18 (Eighteen) months for EACH UNIT** from the date of commencement of work at site (DATE OF COMMENCEMENT OF INDIVIDUAL UNIT SHALL BE SEPERATELY RECOGNISED).

Commencement of Contract Period: Erection/placement on its designated foundation / location, of the first major permanent equipment / component / column covered in the scope of these specifications / Shutdown/ handing over of Unit to Contractor (as decided by BHEL) shall be recognized as “Start of contract period”. The date of Start of contract period shall be the mutually agreed date between the bidder and BHEL engineer to start the work. In case of discrepancy, the decision of BHEL engineer is final.

Based on the availability of civil foundations from BHEL and materials from manufacturing units, contractor may have to advance the start of erection after getting clearance from construction manager, or the start of erection may get delayed due to site condition.

6.3 The contractor shall have to mobilize his resources earlier than the start of contract period for preparatory work like taking over and chipping of foundations, blue-matching, grouting of packer plates etc or start of fabrication. The contractor shall complete all the works in the scope of this contract within the contract period. Pending points identified by the customer/BHEL during the execution of the contract are to be liquidated during the contract period itself.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

6.4 Time schedule

S No	Description	FOR EACH UNIT	
		Schedule of Completion from Date of Start (DOS)	
		Start (Month)	Finish (month)
1.	Pre shutdown activities	-	03
2.	Unit Shut Down works during Unit Shut down of 25 days	03	04
3.	Renovation of existing ESP by isolating one pass at a time when the Unit is in operation.	04	16
4.	Unit shutdown works after pass wise R & M during second shutdown of 07 days which includes GD test & fine-tuning of the system and miscellaneous works for completion of facilities	16	17
5.	Completion of facilities	17	18

6.5 During the total period of contract, the contractor has to carry out the activities in a phased manner as required by BHEL and the program of milestone events.

6.6 The scope of work under this contract is deemed to be completed only when so certified by the site Engineer. The decision of BHEL in this regard shall be final and binding of the contractor.

6.7 Tentative shutdown schedule (first shutdown for 25 days) is as follows:

Sl. No	Unit	Tentative Shutdown Date
1	First unit shutdown	Dec'21
2	Second unit shutdown	Mar'22
3	Third unit shutdown	Jun'22

Note: This is a Tentative Shutdown Schedule and is liable to change at NTPC Discretion.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

- 6.8** It is expected that shutdown of each unit will be given separately & work shall be carried out during different periods for each unit. In such case after completion of the work for each unit, contractor shall complete all contractual obligations viz, material reconciliation, HR clearances, Labour clearances, other statutory clearance & submit the final bill etc, w.r.t. the completed unit.
- 6.9** Shutdown will be provided by NTPC for facilitating duct modification in order to isolate one pass at a time and continue operation of the ESP with remaining passes
- 6.10** Agency should geared up to take up shut down works in more than one units simultaneously, if such need arises. T & Ps, manpower and other resources shall be mobilized accordingly to work in parallel units simultaneously, if such need arises.
- 6.11** Adequate resources need to be deployed for parallel work in two passes of each unit, if such need arises.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Terms of Payment

7 Terms of payment : Progressive Payment against monthly running bills will be made on Pro-rata basis and payments against stage / milestones events shall be as per the following table.

AA: Dismantling Work of ESP:

SI No:	Description	ESP Rate Schedule
I.		
7.1	Pro Rata Payments (90%)	%
7.1.1	Completion of Dismantling work for each pass @21.25% per pass	85
7.1.2	Transportation of Dismantled material to scrap yard/customer yard or to any other designated place as per BHEL/customer instruction @ 1.25% per pass	5
II		
7.2	Stage/ Milestone Payments (10%)	
7.2.1	Area cleaning, temporary structures cutting/removal and return of scrap	2
7.2.2	Punch List points/pending points liquidation	2
7.2.3	Material Reconciliation	4
7.2.4	Completion of Contractual Obligation	2
	Total For Stage/Milestone Payments	10
	Total I + II	100

BB: Erection / Retrofitting Work of ESP/NPP:

SI No:	Description	ESP Rate Schedule
I.		
7.1	PRO RATA PAYMENTS (85%)	%
7.1.1	On Pre-Assembly wherever applicable (If not applicable, this portion shall be clubbed with placement in position)	15

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Terms of Payment

7.1.2	Placement in position	20
7.1.3	Alignment	15
7.1.4	Welding/Bolting/Fixing	20
7.1.5	Hangers & Supports etc wherever necessary as per drawing	--
7.1.6	Completion of hoppers along with all doors, heating elements, poking doors, etc	5
7.1.7	Completion of inner, outer roof insulator housing, rectifier transformers, pent house mono rails, hoists etc	5
7.1.8	Erection of emitting and collecting rapping system with all drives	5
	Total for Pro Rata Payments (Total 85%)	85
II. 7.2	Stage/Milestone Payments	
7.2.1	Air & Gas Tightness Test	2
7.2.2	Gas Distribution Test	1
7.2.3	Charging of ESP fields	4
7.2.4	Painting	2
7.2.5	Submission of as built Drawing	0
7.2.6	Trial Operation of Unit	1
7.2.7	Area cleaning, temporary structures cutting/removal and return of scrap	1
7.2.8	Punch List points/pending points liquidation	2
7.2.9	Material Reconciliation	1
7.2.10	Completion of Contractual Obligation	1
	Total for stage/milestone payments (15%)	15
	Total I + II	100

CC: Application of Insulation/Iron parts/Cladding sheets Work:

SI No:	Description	ESP Rate Schedule
I. 7.1	Pro Rata Payments (85%)	%
7.1.1	On application/erection of insulation/Iron parts/cladding materials	85
II. 7.2	Stage/Milestone Payments	
7.2.2	Trial Operation of Unit	3

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Terms of Payment

7.2.3	Area cleaning, temporary structures cutting/removal and return of scrap	3
7.2.4	Punch List points/pending points liquidation	3
7.2.5	Material Reconciliation	3
7.2.6	Completion of Contractual Obligation	3
	Total for Stage/Milestone Payments	15
	Total I + II	100

DD: Painting (Supply & its application):

1. Supply and application of paint (Finish Coat) Manufacturing Unit Supplied material:

SI No:	Description	Rate Schedule %
A	Supply of Paint	60
B	Application of Paint as per painting specification	40
	Total A + B	100

2. Supply and application of Heat Resistance Aluminum Paint Grade-2 IS 13183 for existing ESP and ducting after removal of insulation:

SI No:	Description	Rate Schedule %
A	Supply of Paint	60
B	Application of Paint as per painting specification	40
	Total A + B	100

Note: Customer Approved vendor for Paint supply-

1. Berger
2. Shalimar Paints
3. Kansai Nerolac
4. Akzo Nobel
5. Asian Paints PPG

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 :-

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

Email id ---- to be intimated later on.

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

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

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

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

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

In case any new tax/levy/duty etc. becomes applicable after the date of bidder's offer but before opening of the price bid, the bidder must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of the 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**
- Buyer shall be as per clause (a) of section 206C- (1H)
 - Seller shall be as per clause (b) of section 206C- (1H)
 - 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

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

ANNEXURE-1

State wise GSTIN no.s of BHEL

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

ANNEXURE-2

BOCW Act & Cess Act

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

Government may , by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

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

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Chapter-IX: GENERAL

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

1. All the works such as cleaning, leveling, aligning, trial assembly, dismantling of certain components for checking and cleaning, surface preparation, fabrication of sheets, tubes and pipes as per general engineering practice and as per BHEL Engineer's instructions at site, cutting, weld depositing, grinding, straightening, chamfering, filing, chipping, drilling, reaming, scrapping, lapping, fitting-up etc., as may be applicable in such erection works and are necessary to complete the work satisfactorily, shall be carried out by the contractor as part of the work within the quoted rate. Major machining work, which is only to be carried out in workshops, will be arranged by BHEL.
2. The work shall conform to dimensions and tolerances given in various drawings and quality manuals provided by BHEL. If any portion of work is found to be defective in workmanship not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost, failing which the job will be carried out by BHEL by engaging other agencies and recoveries will be effected from contractor's bill towards expenditure incurred including BHEL's overhead charges.
3. Contractor shall execute the work as per sequence and procedure prescribed by BHEL at site. The applicable erection manuals which are available with BHEL site office are to be referred for compliance and guidance before taking up the work. Any rework on this failure to comply with will be to account contractor only. BHEL engineer, depending upon the availability of materials, fronts etc, will decide the sequence of erection and methodology. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the method of erection adopted in erection of similar jobs or for any reason whatsoever.
4. Contractor has to work in close co-ordination with other erection agency at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less/more at a particular given time. Activities and erection program have to be planned in such a way that the milestones are achieved as per schedule/ plans. Contractor shall arrange & augment the resources accordingly.
5. The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe/tubes, and handrails etc for any temporary supporting or scaffolding works. Contractor shall arrange himself all such materials. In case of such misuse of BHEL materials, a sum as determined by BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor.
6. The contractor will be responsible for the safe custody and proper accounting of all materials in connection with the work. If the contractor has drawn materials in excess of design requirements, recoveries will be affected for such excess draws at the rate prescribed by manufacturing units.
7. No member of the already erected structure/ platform, pipes, grills, platform, other component and auxiliaries should be cut without specific approval of BHEL engineer.
8. Contractors shall ensure that all their Staff/Employees are exposed to periodical training program conducted by qualified agencies/ personnel on ISO 9001 – 2000 Standards.
9. For other agencies, such as piping, cabling, instrumentation, insulation etc., to commence their work from/on the equipments coming under this scope, Contractor has to clear the front, expeditiously and

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: GENERAL

promptly as instructed by BHEL Engineer. Some time it may be required to re-schedule the activities to enable other agencies to commence/continue the work so as to keep the overall project schedule

10. The terminal points decided by BHEL are final and binding on the contractor for deciding the scope of work and effecting the payment for the work done up to the terminals
11. For the purpose of planning, contractor shall furnish the estimated requirement of power (month wise) for execution of work in terms of maximum KW demand.
12. On Completion of work, all the temporary buildings, structures, pipe lines, cable etc. shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
13. All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.
14. The contractor must obtain the signature and permission of the security personnel of the customer for bringing any of their materials inside the sit premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside.
15. Crane operators deployed by the contractor shall be tested by BHEL before he is allowed to operate the cranes.
16. All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.

Site Inspection:

17. The owner/employer or his authorized agents may inspect various stages of work during the currency of the contract awarded to him. The contractor shall make necessary arrangements for such inspection and carry out the rectification pointed out by the owner/employer without any extra cost to the owner / employer. No cost whatsoever such duplication of inspection of work be entertained.

Utility Points:

18. Number of utility points (Service / plant air, service / plant water, service / washing steam, inert gas (N2) etc., shall be indicated in the P & I diagram. The utility points shall be located at convenient point to handle. Contractor to locate the utility points as advised by site engineer.

Safety:

19. Adherences to safety are upper most during execution of work. 100% safety norms to be strictly followed .Tenderer should appoint qualified safety officer tom implement safety. He should interact with BHEL and customer for day to day activities. As the work is to be executed in the running plant, all work force to undergo for a safety classes and obtain the certificate from customer. No person will be allowed without safety training.

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Chapter-IX: GENERAL

20. Trained and certified safety supervisors to be appointed for every 50 work men. The safety officer, supervisors are not allowed to assigning any work other than safety. Heavy penalty will be levied if any un -safe practices are found during execution of work.

Insurance:

21. Insurance shall be in such a form to protect the Contractor against all claims for injuries ,disability , disease and death to members of public including the Owner's men and damage to the property of others arising from the use of motor vehicles during on or off the site operations ,, irrespective of the ownership of such vehicles .

Quality:

22. Qualified and certified quality engineer to be posted at site for quality assurance. The quality person should maintain all records and reports to be generated as per BHEL quality standards. He should interact with customer and BHEL and all the stage wise protocols to be prepared after joint inspection and get is signed by BHEL and customer. All the record to be maintained and he is responsible for quality audit carried out by BHEL and customer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CHAPTER – X FOUNDATION AND GROUTING

Foundations and Grouting

- 10.1** Foundation for the equipments to be erected shall be provided by BHEL/ clients of BHEL. The dimension of the foundation and anchor bolt pits shall be checked by the contractor for their correctness as per drawings. Further, top elevation of foundations shall be checked with respect to bench mark etc. All adjustments of foundations surfaces, enlarging the pockets in foundations etc. as may be required for the erection of equipments plants shall be carried out by the contractor.
- 10.2** Cleaning of foundation surfaces, pocket holes and anchor bolt pits etc., de-watering, making them free of oil, grease, sand and other foreign materials by soda wash, water wash, compressed air or any other approved methods etc., form/shuttering work are within the scope this work.
- 10.3** It shall be contractor's responsibility to check the various equipment foundations for their correctness with respect to level, orientation, dimensions etc., and ascertained dimensions shall be measured and submitted to BHEL for approval before erection. Also minor chipping, dressing of foundations up to 30 mm for obtaining proper face for packer plates/shims, and may be required for the erection of the equipment/plants will have to be carried out by the contractor without extra cost.
- 10.4** The surface of foundations shall be dressed to bring the surface of the foundations to the required level and smoothness prior to placement of equipments
- 10.5** Foundation pockets are to be cleaned thoroughly before placing the columns/equipments. Verticality of foundation bolts to be checked along with correctness of the threads and freeness of the nuts movement., if required cleaning of the threads to be done with proper dies.
- 10.6** The concrete foundation, surfaces shall be properly prepared by chipping, as required to bring the top of such foundation to the required level to provide the necessary roughness for bondage and to ensure enough bearing strength. All laitance and surface film shall be removed and cleaned and the packers placed with suitable mortar prior to erection of the equipment. Packer plates should not only be blue matched with foundation but also inter-packer contact surfaces between the packers and foundation frame etc., shall also be blue matched by Prussian Blue match checks and required percentage contact shall be achieved by chipping and scrapping as per BHEL Engineers instructions.
- 10.7** The certificates of the grout is to be submitted BHEL. If necessary test cubes are to be made and tested at site to ensure the quality of the grout as per relevant IS standards. In case grouting with Portland cement is approved, necessary cement, sand etc to be arranged by the contractor including the fine aggregates.
- 10.8** All the materials required for grouting including special cements like Conbextra GPI,GP2, ACC-Shrinkomb-N20, Sika Anckor, NSG/ NSG -1, CICO Excem GP, or its equivalent as approved by BHEL and other materials like Portland cement, sand etc., are to be arranged by the contractor at his cost.It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of grouting cements before procurement of grouting cements.
- 10.9** Certain packer plates and shims over and above the quantity received as part of supplies from manufacturing units of BHEL will have to be cut out from steel plates/sheets at site by the contractor to meet site requirement. However machining of the packers, wherever necessary, will be arranged by BHEL at free of cost.
- 10.10** **Procedure for Grouting :**

Contractor has to carry out the grouting as per the work instructions for grouting available at site (As per FQP)

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CHAPTER – XI ERECTION

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

- 11.1 Ducts / expansion pieces are dispatched to site in loose walls / plates and these are to be assembled at site before erection.
- 11.2 All the dampers, valves, lifting equipments, power cylinders, etc., shall be serviced and lubricated to the satisfaction of BHEL engineer before erecting the same and also during pre-commissioning. The bearings of dampers shall be properly cleaned, serviced and lubricated before commissioning at no extra cost. Even after commissioning in the equipments, if there are problems in the operation they have to be attended by the contractor during the tenure of the contract.
- 11.3 In the case of structural members / ducts in certain cases, the raw material will be supplied in random lengths and the contractor will have to make up the length / prepare the edges to suit the matching profiles, weld / bolt connect the joints at no extra cost.
- 11.4 Any other systems / Components which are integral to ESP & auxiliaries, supplied by BHEL manufacturing units are also to be erected and commissioned by the contractor within the quoted / accepted tonnage rate / lump sum value.
- 11.5 Insulation & cladding: With respect to insulation and cladding it shall be for the complete ESP including inner roof of ESP.
- 11.6 The Erection, Alignment & Testing of HV Rectifier transformer are in the scope of contractor.
- 11.7 Erection & dismantling of air blowers and connecting pipes & ducts, providing blanks/ dummies at the required locations and conducting gas-tightness test is in the scope contract and shall be carried out within the quoted rate.
- 11.8 Fine fittings and other small bore piping have to be routed according to site conditions and hence shall be done only in position as per the site requirement. Necessary sketch for routing these lines should be got approved from BHEL by the contractor. There is a possibility of slight change in routing the above pipelines when after completion, to suit the site conditions. The contractor should absorb this cost in his quoted rate.
- 11.9 All welded joints should be painted with anti-corrosive paint, once NDE works are over.
- 11.10 It shall be the responsibility of the contractor to provide ladders on column for initial works till such time stairways are completed. For this the ladder should not be welded on the column and should be pre-fabricated clamping type ladders. No temporary welding on any structural member is permitted except under special circumstances with the approval of BHEL.
- 11.11 Work such as minor rectification of foundation bolts, reaming of holes, drilling of dowels, matching of bolts and nuts, making new dowel pin, etc. are covered in the scope of work.
- 11.12 Certain extra lengths of various tubes/pipes and fabricated ducts are provided as erection allowance and the same have to be cut/adjusted to suit the site conditions and layouts or certain small lengths may have to be added for adjustments to suit the site conditions. For any mismatch while matching the joints in tubes, the cutting, adjusting, re welding, addition spool pieces should be done by the contractor to match site conditions without any extra payment.
- 11.13 All hangers, supports and anchors (including concreting or welding) shall be installed as per drawing to obtain are reliable and complete installation as per instructions of BHEL Engineer. Normally supports are issued in running meters. Any additional supports as called for by BHEL Engineer shall be fabricated by the contractor and provided at no extra cost. However, the raw material required for fabrication of such supports shall be supplied by BHEL free of cost. (Any machining or threading is involved will only be done by BHEL).

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CHAPTER – XI ERECTION

- 11.14 All Rotating machineries and equipment shall be cleaned, lubricated, checked for their smooth rotation, if necessary dismantling and refitting before erection. If in the opinion of BHEL Engineer, the equipment is to be checked for clearance, tolerance at any stage of work or during commissioning period, all such works are to be carried out by contractor at his cost.
- 11.15 D.S.L / equivalent system for hoisting equipments are also to be erected and commissioned including load testing by the contractor within the quoted rates. Required manpower including electricians is to be arranged by the contractor for carrying out commissioning of electrical hoist and load testing of the above electrical hoist. Required loads will be provided by BHEL free of cost.
- 11.16 The temporary structures/items welded to permanent members/pipes are to be cut and removed without any damage. Any damage so to be made good by the contractor at his cost.
- 11.17 Before lifting the heavy components, soft materials like gunny bags to be used while lashing the rope to avoid dents, rubbing marks etc. The capacity, number of sheave pulleys, size of the rope, guide pulley locations are to be decided at site with respect to the capacity and positioning of the winch. The end caps provided at shop for various stubs are to be removed during final fit up only.
- 11.18 Prior to erection of any components inspection to be done for any foreign materials and damages and they are to be removed/attended as per BHEL engineer. Fixing, welding of necessary instrumentation tapping points, to be provided on auxiliaries covered within the scope of this specification will also be the responsibility of the contractor and will be done as per the instructions of BHEL Engineer. The fixing / welding of all the above items will be contractor's responsibility even if the
- i) Product groups under which these items are not specifically indicated in the Tender Specification.
 - ii) Items are supplied by an agency other than BHEL
- 11.19 For skid mounted equipment, the checking and re-alignment required at site is in the scope of work.
- 11.20 All the shafts of rotating equipment shall have to be properly aligned to those of matching equipment to perfection, accuracy as required and the equipment shall be free from excessive vibration so as to avoid overheating of bearings or other conditions which may tend to shorten the life of the equipment.
- 11.21 All the equipment's /material to be taken inside the plant building shall be cleaned thoroughly before taking them inside and erect. The contractor shall clean, wherever necessary and paint inside surfaces of the equipment's like coolers, oil tanks, Rubber expansion joints assemble and other components as per instruction of BHEL Engineer during erection at the quoted rate.
- 11.22 wherever equipment's are supplied in pre-fabricated assembled packages, there may be necessity to make minor changes, including strengthening by additional welds. This shall be treated as part of the contractor's scope.
- 11.23 All the bearings, Gearboxes etc., of the equipment and electrical motors to be erected are provided with protective greases only. Contractor shall arrange as and when required by the engineer for cleaning the bearing/gear boxes etc., with kerosene or some other agent if necessary by dismantling some of the parts of the equipment during erection and shall arrange for re-greasing/lubricating them with recommended lubricants and assembling back.
- 11.24 Certain instruments like pressure switches, gauges, air sets, regulators, filters, junction boxes, power cylinders, dial gauges, thermometers, flow meters, valve actuators, flow indicators etc., are received in assembled conditions as integral part of equipments. Contractor shall dismantle such instruments and re-erect whenever required prior to commissioning. Sometime this may have to be handed over to store or instrumentation contractor.
- 11.25 Attachment, welding of necessary instrumentation tapping points, to be provided on E.S.P / its auxiliaries or pipelines covered within the scope of this tender will also be the responsibility of the contractor and the same will be done as per the instruction of BHEL Engineer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CHAPTER – XI ERECTION

- 11.26 All the motors/pumps shall be stripped opened, thoroughly serviced with proper care and re-assembled properly before erection by the contractor. During servicing, pre-commissioning & commissioning, if any deficiency is observed the same should be taken up with BHEL Engineer at site and rectified at site without any delay.
- 11.27 All site-fabricated pipes will be issued in running meters as straight. These are to be cut and edge prepared at site to required length to suit layout as given in the erection drawing. All the attachments like lugs, stoppers, cleats etc., will be supplied as loose items and to be cut and welded to the pipes at site as per erection drawing necessary drilling of holes on main pipe for welding stubs shall also be done at site by the contractor. Fittings like bends, tees, elbow, mitre bends, reducers, flanges etc., will be supplied as loose items.
- 11.28 ESP collecting Electrodes may require straightening and repair due to minor transport damages before erection and spot heating in position to get correct alignment which shall be done by contractor within the quoted price.
- 11.29 Additional platforms of permanent nature for approaching different equipments, as per site requirement which may not be indicated in drawings shall be fabricated and installed by the contractor. However the contractor will be paid for this work on accepted tonnage rate for erection. The material required for platform will be supplied by BHEL free of cost.
- 11.30 One layer of insulation mattress on roof top of E.S.P roof (inner) shall be applied before outer roof is placed. The scope shall also include the above work even though the materials are supplied under some other product group and the erected materials shall be paid at the accepted tonnage rate for ESP.
- 11.31 Welding of all thermo wells, draft, pressure and temperature instrumentation points and all other instrumentation points on piping and auxiliaries and welding of thermocouple pads are in the scope of work.
- 11.32 Wherever hanger and support materials are not received from manufacturing unit in time to suit the erection schedule, contractor shall erect the system on temporary supports to ensure the progress of work. The required structural steel materials will be issued on free of charges by BHEL, either from scrap/spare materials. The same shall be removed and returned to BHEL store after erection of permanent supports.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CHAPTER – XII PROGRESS OF WORK

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

- 12.1 Contractor is required to draw mutually agreed monthly erection programs in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed program and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
- 12.2 Progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled program shall be discussed for actions to be taken for achieving targets. Contractor shall also present the program for subsequent week. The contractor shall constantly update / revise his work program to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of nonconformities.
- 12.3 The contractor shall submit daily, weekly and monthly progress reports, manpower reports, materials reports, consumables (gases / electrodes) report, cranes availability report and other reports as per Performa considered necessary by the Engineer as per the format enclosed with this tender document.
- 12.4 The contractor shall submit weekly / fortnightly / monthly statement report regarding consumption of all consumables for cost analysis purposes.
- 12.5 The monthly report ending on 24th of every month shall be submitted as a booklet and shall contain the following details :-
 - a. Color Progress photographs to accompany the report should be submitted.
 - b. Erection progress in terms of tonnage, welding joints, radiography, stress relieving, etc., completed as relevant to the respective work areas against planned.
 - c. Site Organization chart of engineers & supervisors as on 24th of the month with further mobilization plan
 - d. Category- wise man hours engaged during the previous month under the categories of fitters, welders, riggers, khalasis, grinder-men, gas-cutters, electricians, crane operations and helpers. Data will be split up under the work area.
 - e. Consumables report giving consumption of all types of gases and electrodes during the previous month.
 - f. Availability report of cranes
 - g. Safety implementation report in the format
 - h. Pending material and any other inputs required from BHEL for activities planned during the subsequent month.
- 12.6 The manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.
- 12.7 During the course of erection, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workmen like fitters, operators, technicians employed are not sufficient BHEL will induct required additional workmen to improve the progress and recover all charges incurred on this account including all expenses together with BHEL overheads from contractor's bills.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-XIII WELDING

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

- 14.1** All welders including tack welders, structural and high pressure welder shall be tested and approved by BHEL Engineer before they are actually engaged on work even though they may possess a valid certificate. BHEL reserves the right to reject any welder if the welder's performance is not found to be satisfactory. The contractor shall maintain the records of qualification AND performance of welders. BHEL Engineer will issue all the welders qualified for the work, an identity card. The welder will keep the same with him at work place at all times. He may be stopped from work if he is not found in possession of the same.
- 14.2** Engineer may stop any welder from the work if his performance is unsatisfactory for any technical reason or if there is a high percentage of rejection in the joints welded by him. The welders having passed qualification tests does not absolve the contractor of contractual obligation to continuously check the welder's performance.
- 14.3** Faulty welds caused by the poor workmanship shall be cut and re-welded at the contractor's expense. The Engineer prior to any repair being made shall approve the procedure for the repair of defective welds. After the repair has been carried out, the compliance shall be submitted to the quality engineer.
- 14.4** All expenses for testing of contractor's welders including destructive and Non- destructive tests conducted by BHEL at site or at laboratory shall have to be borne by the contractor only. Limited quantity of tube and pipe material required for making test pieces will be supplied by BHEL free of cost.
- 14.5** Only BHEL approved electrodes and filler wire will be used. All electrodes shall be baked and dried in the electric electrode-drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot.
- 14.6** The contractor shall also be equipped for carrying out other NDT like LPI /MPI Hardness test etc. as required as per welding schedules / drawings within the finally accepted price / rates.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XIV: TESTING AND COMMISSIONING

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

Testing , Pre – Commissioning & Commissioning and Post Commissioning

(All the works mentioned hereunder shall be carried out within the quoted and accepted rate)

- 14.1 Contractor to provide necessary commissioning assistance from pre-commissioning state onwards and up to continuous operation of the unit & handing over to customer.
- 14.2 The contractor shall carry out all the required tests on the equipments erected such as gas tightness test for ESPs & ducts, kerosene leak test, air flow test, etc., using contractor's own consumables, labor and scaffoldings.
- 14.3 It is the responsibility of the contractor to provide necessary manpower, tools, tackles and consumable within the quoted price to carry out the Gas Distribution test of ESP.
- 14.4 All required tests (Mechanical and electrical) indicated by BHEL and their clients for successful commissioning are included in the scope of these specifications. These tests / activities may not have been listed in these specifications. All the tests should be repeated till all the equipments satisfy the requirement / obligation of BHEL to their customer. All the repairs (shop welded or site welded) arising out of the failures during testing shall be done by the contractor as part of the work.
- 14.5 For conducting gas tightness test, it may be required to erect the blowers and connecting ducts and commission the same for tightness test. It is the responsibility of the contractor to erect the blowers & dismantle once the test is over. Contractor shall carry out the work within the quoted rate and BHEL will provide only the required materials, like Blowers venture meter and dummies free of hire charges for conducting the test. Agency to arrange required cable for power supply for the Blowers.
- 14.6 Fixing dummy plates at required locations for conducting tightness test and normalizing after the test is over, is also covered in the scope of contract and shall be carried out within the quoted rate. BHEL will provide raw materials for the dummy plates.
- 14.7 The contractor shall carryout any other test as desired by BHEL Engineer on erected equipment covered under the scope of this contract during testing, pre-commissioning, commissioning, and operation, to demonstrate the completion of any part or whole work performed by the contractor.
- 14.8 In case, any rework is required because of contractor's faulty erection, which is noticed during pre-commissioning and commissioning, the same has to be rectified by the contractor at his cost. If any equipment / part are required to be inspected during pre-commissioning and commissioning, the contractor will dismantle / open up the equipment / part and reassemble / redo the work without any extra claim.
- 14.9 Commissioning of the equipments will involve, trial runs of all the equipments erected, blowing through the lines, flushing of all the lines by air, oil or steam as the case may be, trial run of the equipment and any other works incidental to commissioning.
- ~~14.10 The valves will have to be checked, cleaned or overhauled in full or in part before erection, after acid cleaning, steam blowing and during commissioning as may be necessary.~~
- 14.11 In case any erection defect is detected during various tests / operations trial runs such as loose components undue noises or vibration strain on connected equipment steam or oil or water leakage etc. the contractor shall immediately attend these defects and take necessary corrective measures. If any readjustment and realignments are necessary the same shall be done as per BHEL Engineer's instructions. If any part needs repairs rectification and replacement the same shall be done by the contractor at no extra cost. The parts to be replaced shall be provided by BHEL free of cost if insulation is to be removed to attend any of the defects the cost of removal and reapplication of insulation should be borne by the contractor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XIV: TESTING AND COMMISSIONING

- 14.12** The contractor shall carry out cleaning and servicing of valves and dampers / gates actuators prior to pre-commissioning tests and / or trial operations of the plant. A system for recording of such servicing operations shall be developed and maintained in a manner acceptable to BHEL Engineer to ensure that no valves and actuators are left un-serviced.
- 14.13** Replacing / Cleaning and servicing of all the filters of the erected equipments during pre-commissioning / commissioning stages shall be done by the contractor within the accepted price.
- 14.14** Contractor may have to replace old/damaged gaskets / packing etc. in the erected equipments and the same shall be carried out by contractor as per requirement. Materials will be given by BHEL.
- 14.15** In case any erection defect is detected during various tests / operations trial runs, such as loose components undue noises or vibration strain on connected equipment steam or oil or water leakage etc. the contractor shall immediately attend these defects and take necessary corrective measures. The parts to be replaced shall be provided by BHEL free of cost. If the insulation is to be removed to attend any of the defects the cost of removal and reapplication of insulation should be borne by the contractor.
- 14.16** Contractor shall cut / open works if needed, as per BHEL engineer's instructions during commissioning for inspection, checking and make good the works after inspection is over. This contingency shall be included within the quoted value. During commissioning opening of valves, changing of gaskets, attending to leakages, minor modification / rectification works may arise. The contractor has to carry out these works at his cost by providing required manpower in all the three shifts. In case any rework is required because of contractor's faulty erection and which is noticed during commissioning the same has to be rectified by the contractor at his cost.
- 14.17** After synchronization, the commissioning activities will continue. It shall be the responsibility of the contractor to provide manpower including necessary consumables, hand tools and supervision as part commissioning assistance.
- 14.18** It shall be the responsibility of the contractor to provide various categories of workers in sufficient numbers along with Supervisors during pre-commissioning, commissioning and post commissioning of equipment and attending any problem in the equipment erected by the contractor till handing over. The contractor will provide necessary consumables, T&Ps, IMTEs etc., and any other assistance required during this period. Association of BHEL's / Client's staff during above period will not absolve contractor from above responsibilities.
- 14.19** It shall be specifically noted that the contractor and employees of the contractor may have to work round the clock during the pre-commissioning, commissioning and post-commissioning period along with BHEL Engineers / customer officials. Hence contractor's quoted rate shall take into consideration of all expenses that will be incurred for such arrangement of personnel including engineers/supervisors.
- 14.20** During commissioning any improvement / repair / rework / rectification / fabrication / modification due to design improvement / requirement is involved, the same shall be carried out by the contractor promptly and expeditiously.
- 14.21** Contractor shall lay all necessary electric cables and switches etc. required for the tests and maintain the system till the tests are completed satisfactorily.
- 14.22** All lubricants and chemicals required for pre-commissioning, commissioning, testing and lubricants for trial runs of the equipment shall be supplied by BHEL / BHEL's client **at free of charges**. All services including labor and T&P will be provided by the contractor for handling, filling, emptying, refilling etc. The consumption of lubricants / chemicals shall be properly accounted for. Surplus material if any shall be properly stacked / tagged and returned to BHEL / Customer stores at no extra cost to BHEL. BHEL reserves the right to recover costs for wastage by the contractor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-XIV TESTING AND COMMISSIONING

- 14.23** Transportation of oil drums from customer's / BHEL's stores. Filling of lubricants and filling of oil for flushing and first filling and subsequent topping up during commissioning and post commissioning is included in the scope of this contract. The contractor shall have to return all the empty drums to the customer/BHEL stores. Similarly transport of chemicals for various pre-commissioning, commissioning activities and related processes and returning of remaining and/or the empty containers of the chemicals to customer/BHEL stores is the responsibility of the contractor.
- 14.24** The contractor shall carry out the trial run of motors including checking the direction of rotation in the uncoupled condition checking aligning and coupling the motor to the respective driven equipment. Before starting the motor, IR values of insulation shall be recorded and if found necessary the contractor shall dry out to improve the IR value at no extra cost.
- 14.25** Necessary scaffolding and approaches for conducting the tests shall also be within the scope of the contract.
- 14.26** Assistance for calibrating / testing the power cylinders / actuators / valves, gauges, instruments, etc. and setting to actuators shall be provided by contractor within the quoted rates.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – XV: PAINTING

Painting

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

Final Painting

- 15.1 The scope of work shall also include supply and application of final painting of all the erected structures/ equipments/ Duct of ESP and as specified for the components of ESP and its auxiliaries.
- 15.2 The scope of work shall also include supply and application of painting of existing ESP/ Ducting as specified for the components of ESP and its auxiliaries as per Painting Schedule.
- 15.3 In the case of steel fabricated items, raw steel after fabrication has to be cleaned and subsequent painting to be carried out.
- 15.4 All the exposed metal parts of the equipments including piping, structures, hangers etc., wherever applicable after installation unless otherwise specified the surface protected, are to be first painted with at least one coat of suitable primer and required number of finish coats as indicated in the Painting Specification in TCC which matches the shop primer paint used, after thoroughly cleaning the dust, rust, scales, grease oil, and other foreign materials by wire brushing scrapping and chemical cleaning and the same being inspected and approved by BHEL engineers for painting. Afterwards the above parts shall be finished with as per the instructions of BHEL/Customer official.
- 15.5 Paint shall be applied by brushing or by spray painting as per the instruction of BHEL Engineer. Spray painting gun and compressed air arrangement has to be made by the contractor himself. It shall be ensured that brush marks are minimum.
- 15.6 Before applying the subsequent coats the thickness of each coat shall be measured and recorded with BHEL / Customer.
- 15.7 Paint used shall be stirred frequently to keep the pigment in suspension. Paint shall be of the ready mix type in original sealed containers as packed by the paint manufacturer. No thinners shall be permitted. Paint manufacturer's instructions shall be followed in method of application, handling, drying time etc.,
- 15.8 The scope of painting includes application of color bands, lettering the names of the systems equipments; tag Nos. of valves, marking the directions of flow and other data required by BHEL within the quoted rate.
- 15.9 All surfaces shall be thoroughly cleaned, free from scales, dirt and other foreign matter. Each coat shall be applied in an even & uniform film free from lumps, streaks, runs, sags and uncoated spots. Each coat (Primer, intermediate, finish) shall have a minimum thickness of dry film thickness (DFT) in microns and the DFT of finish paint shall not be less than the specified. Necessary instrument for measuring the thickness of paint applied is to be arranged by the contractor.
- 15.10 Finish coat paint, No. of coat and DFT shall be as indicated in the painting specification enclosed in this tender / relevant BHEL document/ customer's specifications. The painting specification which is forming part of this tender as in TCC shall be used as guidelines to be followed.
- 15.11 The actual color to be applied shall be approved by the customer before starting of actual painting work.

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Chapter – XV: PAINTING

- 15.12 Primer & finish paint shall be of reputed paint supplier approved by BHEL / Customer. Contractor has to procure paints from the **BHEL / Customer approved agencies** only, and the paints should be as per the customer painting specification. The quality of the finish paint shall be as per the standards of IS or equivalent as approved by BHEL / Customer. Before procurement of paint the contractor has to obtain the clearance from BHEL authorities.
- 15.13 No paint shall be applied when the surface temp is above 55 deg. Centigrade or below 10 deg. Centigrade, and when the humidity is greater than 90% to cause condensation on the surface or frost / foggy weather.
- 15.14 If needed and insisted either by BHEL / Customer in certain cases, spray painting has to be carried out within the Quoted rates.
- 15.15 Before commencement of final painting, contractor has to obtain written clearance from BHEL / Customer for effective completion of surface preparation.
- 15.16 Before applying the subsequent coats, the thickness of each coat shall be measured and recorded with BHEL/ Customer.
- 15.17 Preservation / Touch Up Painting**
- 15.17.1 Contractor shall carryout cleaning and preservation / touch up painting for the materials / equipments under this tender specification right from pre- assembly stage to till the equipment is cleared for final painting.
- 15.17.2 Any equipment which has been given the shop coat of primer shall be carefully examined after its erection in the field and shall be treated with touch up coat of red oxide primer wherever the shop coat has been abraded, removed or damaged during transit / erection, or defaced during welding.
- 15.17.3 Mostly the equipment / items/ components will be supplied with one coat of primer paint and one coat of finish paint. However during storage and handling, the same may get peeled off / deteriorate. All such surfaces are to be thoroughly cleaned and to be touch up painted with suitable approved primer and finish paint matching with shop paint / approved final color.
- 15.18 Further, for existing ESP and duct surface (where the insulation is removed for refurbishment works) which is insulated , the surfaces shall be first cleaned, prepared using the power tool/manual brush tool (as may be feasible owing to difficulty in access) and subsequently shall be applied with at least two coats of Heat resistant aluminum paint (Grade 2 to IS 13183) with total DFT not less than 40 microns. Supply of paint and application is in contractor scope. Roughly around 18000 m2 will be such surface area, however, this may vary.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-XVI BOQ/Tentative Shipping List

Unit wise Shipping list is as below:

Applicable PGMA List				
Unit 4				
SL No	PGMA	PGMA DESC	Wt (Kgs)	Rate Schedule Identifier
1	57460	GATE-ESP INLET	40126.886	NPP
2	57466	PLATFORMS AND LADDERS	12901.12	ESP
3	57470	GATE-ESP OUTLET	40126.886	NPP
4	57577	ELECT ACTUATOR FOR GATE,DAMPER	7040	ESP
5	78301	ROLL/SLIDE SUPPORTS	1960	ESP
6	78305	ESP-SUB-DELIVERY COMPONENTS	629.516	ESP
7	78306	INSULATOR HOUSING ASSY	42326.56	ESP
8	78308	GAS DIST. ASSY	73433.556	ESP
9	78309	GD-RAPPING MECHANISM	13620.72	ESP
10	78310	GD_DRIVE ARRANGEMENT	454.54	ESP
11	78311	GAS SCREEN-ESP	7829.036	ESP
12	78313	EMITTING SYSTEM SUSPENSION	15361.5	ESP
13	78314	SUPPORT INSULATORS	15008	ESP
14	78315	EMITTING ELECTRODES	24393.61	ESP
15	78316	EMITTING ELECT. RAPPING MECH	46732.56	ESP
16	78317	DRIVE ARGT. FOR EMITTING. SYS	32490.164	ESP
17	78319	COLLECTING ELECTRODE SUSPENSION	99645.194	ESP
18	78320	COLLECTING ELECTRODE	1085095.978	ESP
19	78321	EMITTING SYSTEM FRAME-TOP	92548.26	ESP
20	78322	EMITTING SYSTEM FRAME BOTOM	145206.276	ESP
21	78323	INSPECTION DOORS	2256.24	ESP
22	78324	SHOCK BARS	77212.4	ESP
23	78325	COLLECTING ELECTRODE RAPP MECH	64077.204	ESP
24	78326	COLLECTING ELECTRODE RAPP DRIVE	3181.78	ESP
25	78328	ESP ROOF BEAM	156428.837	ESP
26	78330	ELECTRICAL SD COMPTS	17136	ESP
27	78331	GEARED MOTORS FOR RAPPING MECH	15500	ESP
28	78332	EMITTING SYSTEM FRAME-MIDDLE	221079.845	ESP
29	78342	OUTER ROOF-ESP	157266.232	ESP
30	78342	OUTER ROOF-ESP- Re-used	70000	ESP
31	78343	HOPPER RIDGES	7713.921	ESP
32	78344	HOPPER UPPER PART	33345.344	ESP
33	78345	HOPPER MIDDLE&LOWER PART	51163.464	ESP
34	78346	INSULATOR SUPP PANEL	80174.688	ESP
35	78347	INNER ROOF PANEL ASSY	78808.584	ESP

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-XVI BOQ/Tentative Shipping List

36	78347	INNER ROOF PANEL ASSY- Re-used	30000	ESP
37	78348	CASING STRUCTURE	149545.412	ESP
38	78349	CASING SHELL/PANEL	189529.43	ESP
39	78350	INLET-OUTLET FUNNEL	113022.092	NPP
40	78351	EXPANSION JOINTS	26328	NPP
41	78353	DUCTS BETWEEN ESP & ID FAN	54302.072	NPP
42	78355	PENT HOUSE FOR ESP	54821.816	ESP
43	78355	PENT HOUSE FOR ESP- Re-used	40000	ESP
44	78357	SPLITTER&GUIDE VANES	22990	ESP
45	78361	ESP PERF TEST EQUIPT	684.096	ESP
46	78364	MISCELLANEOUS ITEMS	79686.86	ESP
47	78365	APPROACH PLATFORM-HOPPER	19700	ESP
48	78366	WATER WASHING SYSTEM	1838	ESP
49	78367	MINERAL WOOL FOR ESP INSULATION	229680	Wool
50	78368	FIXING COMP. FOR ESP INSULATION	77839.279	Iron parts
51	78369	MINERAL WOOL FOR DUCT INSULATION	63162	Wool
52	78370	FIXING COMP FOR DUCT INSULATION	20603.01	Iron parts
53	78373	ELECTRICALLY OPERATED HOIST&ACCESSORIES	5970	ESP
54	78376	HVR RECTIFIERS -ESP	109200	ESP
55	78380	FOUNDATION MATLS FOR ESP	1958.904	ESP
56	78381	SUPPORTING STRUCTURES FOR ESP	71057.455	ESP
57	78383	SUPP. STRU FOR DUCT ESP& IDFAN	12782.136	ESP
58	78385	DUCT SUPPORTS	10313.572	ESP
59	78386	ACCESS DOOR AND PLATFORM	9530	ESP
60	78389	GUIDE PLATE/VANE ESP INLET DUCT	7125	ESP
61	78390	HEATING ELEMENTS	700	ESP
62	78391	PANEL TYPE HOPPER HEATERS & ACCESSORIES	14345	ESP
63	78988	COMMISSIONING SPARES	583.576	ESP
64	78996	TOOLS & TACKLES	256.608	ESP
65	89610	ESP GALLERIES&STAIRS	30215.315	ESP
66	89611	ESP ROOF HANDRAILS	8475.72	ESP
67	89612	FLOOR GRILL AND STEP TREAD	5532.78	ESP
68	89613	FLOOR GRILL AND MOBILE LADDER	8299.17	ESP
69	89614	PENT HOUSE ROOFING SHEETS	18158	ESP
70	89615	INSULATION CLADDING SHEET FOR ESP	52800	Cladding sheet
71	89617	INSULATION CLADDING SHEET FOR DUCT	16032	Cladding sheet
Unit 4 Total			4389342.2	0.0

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Unit 5				
1	57460	GATE-ESP INLET	40126.886	NPP
2	57466	PLATFORMS AND LADDERS	12901.12	ESP
3	57470	GATE-ESP OUTLET	40126.886	NPP
4	57577	ELECT ACTUATOR FOR GATE,DAMPER	7040	ESP
5	78301	ROLL/SLIDE SUPPORTS	1960	ESP
6	78305	ESP-SUB-DELIVERY COMPONENTS	629.516	ESP
7	78306	INSULATOR HOUSING ASSY	42326.56	ESP
8	78308	GAS DIST. ASSY	73662.356	ESP
9	78309	GD-RAPPING MECHANISM	13620.72	ESP
10	78310	GD_DRIVE ARRANGEMENT	454.54	ESP
11	78311	GAS SCREEN-ESP	7829.036	ESP
12	78313	EMITTING SYSTEM SUSPENSION	15361.5	ESP
13	78314	SUPPORT INSULATORS	15008	ESP
14	78315	EMITTING ELECTRODES	24393.61	ESP
15	78316	EMITTING ELECT. RAPPING MECH	46732.56	ESP
16	78317	DRIVE ARG. FOR EMITTING. SYS	32483.724	ESP
17	78319	COLLECTING ELECTRODE SUSPENSION	99645.194	ESP
18	78320	COLLECTING ELECTRODE	1085095.978	ESP
19	78321	EMITTING SYSTEM FRAME-TOP	92548.26	ESP
20	78322	EMITTING SYSTEM FRAME BOTOM	145206.276	ESP
21	78323	INSPECTION DOORS	2256.24	ESP
22	78324	SHOCK BARS	77212.4	ESP
23	78325	COLLECTING ELECTRODE RAPP MECH	64077.204	ESP
24	78326	COLLECTING ELECTRODE RAPP DRIVE	3181.78	ESP
25	78328	ESP ROOF BEAM	156477.157	ESP
26	78330	ELECTRICAL SD COMPTS	17136	ESP
27	78331	GEARED MOTORS FOR RAPPING MECH	15500	ESP
28	78332	EMITTING SYSTEM FRAME-MIDDLE	221079.845	ESP
29	78342	OUTER ROOF-ESP	154854.456	ESP
30	78342	OUTER ROOF-ESP- Re-used	70000	ESP
31	78343	HOPPER RIDGES	7713.921	ESP
32	78344	HOPPER UPPER PART	33345.344	ESP
33	78345	HOPPER MIDDLE&LOWER PART	51164.136	ESP
34	78346	INSULATOR SUPP PANEL	80174.688	ESP
35	78347	INNER ROOF PANEL ASSY	79244.184	ESP
36	78347	INNER ROOF PANEL ASSY- Re-used	30000	ESP
37	78348	CASING STRUCTURE	149523.74	ESP
38	78349	CASING SHELL/PANEL	189048.254	ESP
39	78350	INLET-OUTLET FUNNEL	113022.092	NPP
40	78351	EXPANSION JOINTS	26328	NPP
41	78353	DUCTS BETWEEN ESP & ID FAN	54302.072	NPP

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42	78355	PENT HOUSE FOR ESP	54821.816	ESP
43	78355	PENT HOUSE FOR ESP- Re-used	40000	ESP
44	78357	SPLITTER&GUIDE VANES	22990	ESP
45	78361	ESP PERF TEST EQUIPT	684.096	ESP
46	78364	MISCELLANEOUS ITEMS	79686.86	ESP
47	78365	APPROACH PLATFORM-HOPPER	19700	ESP
48	78366	WATER WASHING SYSTEM	1838	ESP
49	78367	MINERAL WOOL FOR ESP INSULATION	229680	Wool
50	78368	FIXING COMP. FOR ESP INSULATION	77839.279	Iron parts
51	78369	MINERAL WOOL FOR DUCT INSULATION	63162	Wool
52	78370	FIXING COMP FOR DUCT INSULATION	20603.01	Iron parts
53	78373	ELECTRICALLY OPERATED HOIST&ACCESSORIES	5970	ESP
54	78376	HVR RECTIFIERS -ESP	109200	ESP
55	78380	FOUNDATION MATLS FOR ESP	1958.904	ESP
56	78381	SUPPORTING STRUCTURES FOR ESP	71057.455	ESP
57	78383	SUPP. STRU FOR DUCT ESP& IDFAN	12782.136	ESP
58	78385	DUCT SUPPORTS	10313.572	ESP
59	78386	ACCESS DOOR AND PLATFORM	9530	ESP
60	78389	GUIDE PLATE/VANE ESP INLET DUCT	7125	ESP
61	78390	HEATING ELEMENTS	700	ESP
62	78391	PANEL TYPE HOPPER HEATERS & ACCESSORIES	14345	ESP
63	78988	COMMISSIONING SPARES	583.576	ESP
64	78996	TOOLS & TACKLES	256.608	ESP
65	89610	ESP GALLERIES&STAIRS	30215.315	ESP
66	89611	ESP ROOF HANDRAILS	8504.52	ESP
67	89612	FLOOR GRILL AND STEP TREAD	5532.78	ESP
68	89613	FLOOR GRILL AND MOBILE LADDER	8299.17	ESP
69	89614	PENT HOUSE ROOFING SHEETS	18158	ESP
70	89615	INSULATION CLADDING SHEET FOR ESP	52800	Cladding sheet
71	89617	INSULATION CLADDING SHEET FOR DUCT	16032	Cladding sheet
Unit 5 Total			4387163.3	0.0
Unit 6				
1	57460	GATE-ESP INLET	40126.886	NPP
2	57466	PLATFORMS AND LADDERS	12901.12	ESP
3	57470	GATE-ESP OUTLET	40126.886	NPP
4	57577	ELECT ACTUATOR FOR GATE,DAMPER	7040	ESP
5	78301	ROLL/SLIDE SUPPORTS	1960	ESP
6	78305	ESP-SUB-DELIVERY COMPONENTS	629.516	ESP
7	78306	INSULATOR HOUSING ASSY	42326.56	ESP

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8	78308	GAS DIST. ASSY	73662.356	ESP
9	78309	GD-RAPPING MECHANISM	13620.72	ESP
10	78310	GD_DRIVE ARRANGEMENT	454.54	ESP
11	78311	GAS SCREEN-ESP	7829.036	ESP
12	78313	EMITTING SYSTEM SUSPENSION	15361.5	ESP
13	78314	SUPPORT INSULATORS	15008	ESP
14	78315	EMITTING ELECTRODES	24393.61	ESP
15	78316	EMITTING ELECT. RAPPING MECH	46732.56	ESP
16	78317	DRIVE ARGT. FOR EMITTING. SYS	32483.724	ESP
17	78319	COLLECTING ELECTRODE SUSPENSION	99645.194	ESP
18	78320	COLLECTING ELECTRODE	1085095.978	ESP
19	78321	EMITTING SYSTEM FRAME-TOP	92548.26	ESP
20	78322	EMITTING SYSTEM FRAME BOTOM	145206.276	ESP
21	78323	INSPECTION DOORS	2256.24	ESP
22	78324	SHOCK BARS	77212.4	ESP
23	78325	COLLECTING ELECTRODE RAPP MECH	64077.204	ESP
24	78326	COLLECTING ELECTRODE RAPP DRIVE	3181.78	ESP
25	78328	ESP ROOF BEAM	156428.837	ESP
26	78330	ELECTRICAL SD COMPTS	17136	ESP
27	78331	GEARED MOTORS FOR RAPPING MECH	15500	ESP
28	78332	EMITTING SYSTEM FRAME-MIDDLE	221079.845	ESP
29	78342	OUTER ROOF-ESP	154683.64	ESP
30	78342	OUTER ROOF-ESP- Re-used	70000	ESP
31	78343	HOPPER RIDGES	7713.921	ESP
32	78344	HOPPER UPPER PART	33345.344	ESP
33	78345	HOPPER MIDDLE&LOWER PART	51164.136	ESP
34	78346	INSULATOR SUPP PANEL	80174.688	ESP
35	78347	INNER ROOF PANEL ASSY	78808.584	ESP
36	78347	INNER ROOF PANEL ASSY- Re-used	30000	ESP
37	78348	CASING STRUCTURE	149523.74	ESP
38	78349	CASING SHELL/PANEL	183874.546	ESP
39	78350	INLET-OUTLET FUNNEL	113022.092	NPP
40	78351	EXPANSION JOINTS	26328	NPP
41	78353	DUCTS BETWEEN ESP & ID FAN	54302.072	NPP
42	78355	PENT HOUSE FOR ESP	54821.816	ESP
43	78355	PENT HOUSE FOR ESP- Re-used	40000	ESP
44	78357	SPLITTER&GUIDE VANES	22990	ESP
45	78361	ESP PERF TEST EQUIPT	684.096	ESP
46	78364	MISCELLANEOUS ITEMS	79686.86	ESP
47	78365	APPROACH PLATFORM-HOPPER	19700	ESP
48	78366	WATER WASHING SYSTEM	1838	ESP
49	78367	MINERAL WOOL FOR ESP INSULATION	229680	Wool

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50	78368	FIXING COMP. FOR ESP INSULATION	77839.279	Iron parts
51	78369	MINERAL WOOL FOR DUCT INSULATION	63162	Wool
52	78370	FIXING COMP FOR DUCT INSULATION	20603.01	Iron parts
53	78373	ELECTRICALLY OPERATED HOIST&ACCESSORIES	5970	ESP
54	78376	HVR RECTIFIERS -ESP	109200	ESP
55	78380	FOUNDATION MATLS FOR ESP	1958.904	ESP
56	78381	SUPPORTING STRUCTURES FOR ESP	71057.455	ESP
57	78383	SUPP. STRU FOR DUCT ESP& IDFAN	12782.136	ESP
58	78385	DUCT SUPPORTS	10313.572	ESP
59	78386	ACCESS DOOR AND PLATFORM	9530	ESP
60	78389	GUIDE PLATE/VANE ESP INLET DUCT	7125	ESP
61	78390	HEATING ELEMENTS	700	ESP
62	78391	PANEL TYPE HOPPER HEATERS & ACCESSORIES	14345	ESP
63	78988	COMMISSIONING SPARES	583.576	ESP
64	78996	TOOLS & TACKLES	256.608	ESP
65	89610	ESP GALLERIES&STAIRS	30215.315	ESP
66	89611	ESP ROOF HANDRAILS	8504.52	ESP
67	89612	FLOOR GRILL AND STEP TREAD	5532.78	ESP
68	89613	FLOOR GRILL AND MOBILE LADDER	8299.17	ESP
69	89614	PENT HOUSE ROOFING SHEETS	18158	ESP
70	89615	INSULATION CLADDING SHEET FOR ESP	52800	Cladding sheet
71	89617	INSULATION CLADDING SHEET FOR DUCT	16032	Cladding sheet
Unit 6 Total			4381334.9	0.0
Total			13157840.4	

BOQ Summary of weights:

Summary of weight (in MT)					
Sl no.	DESCRIPTION OF WORK	Unit-4	Unit-5	Unit-6	Total
1	Dismantling	4000	4000	4000	12000
2	ESP	3655	3653	3647	10956
3	NPP (Ducting-Inlet and outside side)	274	274	274	822
4	Min wool for DUCT & ESP	293	293	293	879
5	Iron part for Duct & ESP	98	98	98	295
6	Cladding Sheet	69	69	69	206
	Weight for Erection of each unit (sl no. 2 to 6)	4389	4387	4381	
7	Supply and application of paint (Finish Coat) Manufacturing Unit Supplied material (Lumpsum/ in Lot)	1	1	1	-
8	Supply and application of Heat Resistance Aluminium Paint Grade-2	1	1	1	-

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	IS 13183 for existing ESP and ducting after removal of insulation (Lumpsum/ in Lot)				
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Note For Weight Schedule:

1. **The weights given are only approximate and for general guidance and they are subject to variation as per site requirement for dismantling & design consideration for erection.**
2. The information furnished is only a description regarding the items to be erected by the contractor. BHEL reserves the right to add or exclude any components / items / system according to the site requirements / customer requirements to complete the systems in all respects.
3. Any other systems / Components which are integral to ESP& auxiliaries, supplied by BHEL manufacturing units are also to be erected and commissioned by the contractor within the quoted / accepted tonnage rate.
4. Insulation: Removal of existing insulation from Complete ESP and ducts limited to scope of work
5. Erection & dismantling of air blowers and connecting pipes , ducts and cables, providing blanks/ dummies at the required locations and conducting gas-tightness test is in the scope contract and shall be carried out within the quoted price
6. At interface with other agency like Electrical contractor etc the decision of BHEL Engineer regarding scope shall be final. Further, any omission or absence of PGMA in the contract BOQ list cannot be a ground for not executing the necessary work required for completion of the scope. Payment shall be dealt as per the contract based on the decision of BHEL Engineer.
7. Besides PG / PGMA indicated in the weight schedule/shipping list, there is likely hood of addition product groups integral to Systems. The quoted rate shall be applicable for such product groups also. There may be variation or addition of PGMA's, description, weights etc., and any additional scope of work supplied under the above package shall be erected by the contractor and payment will be made as per the quoted / accepted rate in the respective category at the discretion of BHEL.
8. Rate Schedule Identified for PGMA's are based on envisaged material specification. Payment shall be made on the basis of material specification of actual material received and erected at site. BHEL's decision in this regard shall be

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- XVII: BILL OF QUANTITIES AND WEIGHTAGE/Factors OF INDIVIDUAL ITEMS

Table 1 BILL OF QUANTITIES AND WEIGHTAGE/Factors OF INDIVIDUAL ITEMS				
JOB:	DISMANTLING OF EXISTING ESP INTERNALS AND OTHER COMPONENTS, DISPOSAL OF THE SAME TO SCRAP YARD, COLLECTION OF MATERIALS FROM BHEL/ CLIENT'S STORES/ STORAGE YARD, TRANSPORTATION TO SITE, ERECTION, TESTING & ASSISTANCE FOR COMMISSIONING, TRIAL OPERATION AND HANDING OVER OF ESP AND ITS AUXILIARIES, INCLUDING DUCT SUPPORTING STRUCTURE, ESP OUT LET DUCT , LINING & INSULATION, PAINTING OF EXISTING ESP & DUCTING, FINAL PAINTING FOR THE WORK OF RENOVATION & RETROFITTING OF ESP PACKAGE FOR STAGE-II (3 X 500 MW, UNIT#4,5 & 6) ESP R&M PROJECT AT NTPC LTD, RAMAGUNDAM, TELANGANA STPP, DISTRICT-KARIMNAGAR, STATE-TELANGANA			
SN	DESCRIPTION OF WORK	UOM	TOTAL QUANTITY (A)	Weightage/Factors (X)
1	Dismantling	MT	12000	0.27777717033923500
2	ESP	MT	10956	0.56993452368159900
3	Non Pressure Parts	MT	822	0.04425339589501970
4	Min wool for ID DUCT & ESP	MT	879	0.06503721404831110
5	Iron part for ID Duct & ESP	MT	295	0.01870273722843380
6	Cladding Sheet	MT	206	0.01398131011957680
7	Supply and application of paint (Finish Coat) Manufacturing Unit Supplied material (Lumpsum)	Lot	1	0.00711909181875798
8	Supply and application of Heat Resistance Aluminum Paint Grade-2 IS 13183 for existing ESP and ducting after removal of insulation (Lumpsum)	Lot	1	0.00319455686906711

Note: The quantity indicated in the BOQ is approximate only for each unit 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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Chapter- XVII: BILL OF QUANTITIES AND WEIGHTAGE/Factors OF INDIVIDUAL ITEMS

Instructions to the Bidders

1. **Bidders shall quote Total Lump-sum Price for the entire scope of work of U4, U5 and U6 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. BHEL has pre-fixed the Weightage/Factor, w.r.t the total Grand Total Lump-sum Price of three Unit as detailed above in this chapter for deriving the Per Unit Rate 'B' of Individual Item (I.e. (Grand Total Price Multiplied by the respective Weightages Factor) divided by the total quantity of that line item 'A', rounding off to Three decimal places .
3. Based on the quantities of individual item 'A' and the item rates/Unit Rates arrived in Sl No 2 above 'B', the total amount for individual items shall be derived. Total amount thus derived shall be rounded off to two decimal places.
4. Grand Total amount for the work shall be derived by BHEL by summing up respective total amounts rounding off to zero.
5. Bidders to note that this, is an item rate contract (as detailed in above table). Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per Sl No.2 above.
6. Three LOAs shall be issued based on the BOQ Summary of each Unit mentioned in Chapter-XVI BOQ/Tentative Shipping List.
7. For the convenience of bidders, BHEL has issued an excel sheet "Excel Sheet For Calculation Purpose Only 2509" 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.***