

E-TENDER SPECIFICATION

Sl no	E- TENDER SPECIFICATION NUMBER
1	BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979
2	BHE/PW/PUR/NTPRT-SHRH-ECO-U2/2980

FOR

Job Description

Package-A (Unit#1)

Pkg-A.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu .

And

Pkg-A.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU

Package-B-(Unit#2)

Pkg-B.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu .

And

Pkg-B.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU

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 Annexure
Volume-II	Price Bid



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

BHEL PSWR
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NIL	Notice Inviting Tender	(Part of <u>Vol-IA-2979-2980</u>)
I-A	Technical Conditions of Contract	Vol-I-A- <u>2979-2980</u>
I-B	Special Conditions of Contract	Vol-I-BCD- <u>2979-2980</u>
I-C	General Conditions of Contract	(Part of Vol-I-BCD- <u>2979-2980</u>)
I-D	Forms & Procedures	(Part of Vol-I-BCD- <u>2979-2980</u>)
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And

Pkg-A.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU

Package-B-(Unit#2)

Pkg-B.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu .

And

Pkg-B.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR TENDER SUBMISSION **Refer Notice Inviting Tender**

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

M/s.

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PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)

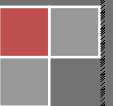
Place: Nagpur

Date:

2979-
2980

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



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NOTICE INVITING E-TENDER (NIT) Dtd:19/06/2024

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/NTPRT-SHRH-ECO-U1/2979 BHE/PW/PUR/NTPRT-SHRH-ECO-U2/2980
ii	Broad Scope of job	Package-A (Unit#1) Pkg-A.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu . And Pkg-A.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU Package-B-(Unit#2) Pkg-B.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu . And Pkg-B.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU
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
B	Volume-IB	Special Conditions of Contract (SCC)
C	Volume-IC	General Conditions of Contract (GCC)
D	Volume-ID	Forms and Procedures
E	Volume-IE	Technical Annexure
F	Volume-II	Price Bid as specified in E-Procurement Portal

Applicable

Applicable

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Applicable

Applicable

Applicable

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S No.	ISSUE	DESCRIPTION	
iv	Issue of Tender Documents	<p>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 :19/06/2024 , Time :10:00 Closes : 01/07/2024 , Time : 13:00 Brief information of the tenders shall also be available at central public procurement portal. (https://eprocure.gov.in/epublish/app)</p>	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	<p>Date: 01/07/2024, Time: 13.00 Hrs • Place: on E-Tender Portal https://eprocurebhel.co.in</p>	Applicable
vi	OPENING OF TENDER (Techno-Commercial Bid)	<p>Date: 01/07/2024, Time: 17.00 Hrs Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender. For e-Tender, Bidder may witness the opening of tender through e-Procurement portal only.</p>	Applicable
vii	EMD AMOUNT	<p>EMD Waived off BID security Declaration to be furnished Important Note: Bidders kindly to take note that EMD (Earnest Money Deposit) shall be furnished by MSE bidders as well, as per the amount and procedure indicated in the NIT/GCC.</p>	Applicable
viii	COST OF TENDER	Free	
ix	LAST DATE FOR SEEKING CLARIFICATION	<p>One day before due date of offer submission. Along with soft version also, addressing to undersigned & to others as per contact address given below: 1) Name: vivek nand Jha Designation: Manager Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Mobile-9429198214 Email :vivekjha@bhel.in 2) Mr. P K Biswas Designation: DGM Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Email: pkbiswas@bhel.in</p>	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)		Not Applicable
xi	INTEGRITY PACT & DETAILS OF	<p>1) Shri Otem Dai, IAS (Retd.) 2) Shri Bishwamitra Pandey, IRAS (Retd.)</p>	Applicable

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S No.	ISSUE	DESCRIPTION
	INDEPENDENT EXTERNAL MONITOR (IEM)	3) <i>Shri Mukesh Mittal, IRS (Retd.)</i>
xii	Latest updates	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) & 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

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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).

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.

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.
- 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.
- 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

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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

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.	

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	It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph. no, FAX no, etc.	
iv. —	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/Errata etc. pertinent to this NIT.	
v. —	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi. —	Duly filled-in annexures, formats etc. as required under this Tender Specification/NIT	
vii. —	Notice inviting Tender (NIT)	
viii. —	Volume — I A : Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc.	
ix. —	Volume — I B : Special Conditions of Contract (SCC)	
x. —	Volume — I C : General Conditions of Contract (GCC)	
xi. —	Volume — I D : Forms & Procedures	
xii. —	Volume — II (UNPRICED — without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii. —	Any other details preferred by bidder with proper indexing.	

	PART-I B	
	<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	
	ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE)	

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	superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:	
i	○ Envelopes I ○ Envelopes II ○ Envelopes III	

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

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

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

9.0 Void

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

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

12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.

13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc. or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.

14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.

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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 Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

(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:	Sh P K Biswas	Viveka nand Jha/ Manager (Purchase)
Dept:	Purchase Department	
Address:	Floor No. 5 & 6, Shreemohini Complex, 345 Kingsway, Nagpur-440001	
Email:	pkbiswas@bhel.in	vivekjha@bhel.in
Phone:	8617711054	9429198214

16.0 The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre-Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.

17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorized representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.

18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.

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19.0 **Reverse Auction:** Applicable. "BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com on "supplier registration page".) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.

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

20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.

21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.

22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.

23.0 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 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.~~

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~~23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats.~~

~~23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL and BHEL shall take necessary action as per extant guidelines. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.~~

~~23.12 In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHEL.~~

~~23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of one work with a consortium partner under direct order of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.~~

~~23.14 The consortium partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 0.5% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. However, Prime Bidder has also option for submission of SD on behalf of consortium partner (s).~~

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

~~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:**

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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.

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

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<http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

31.0 PREFERENCE TO MAKE IN INDIA:

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

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

- I. *Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).*
- II. *"Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.*
- III. *"Bidder from a country which shares a land border with India" for the purpose of this Clause means: -*
 - a. *An entity incorporated established or registered in such a country; or*
 - b. *A subsidiary of an entity incorporated established or registered in such a country; or*
 - c. *An entity substantially controlled through entities incorporated, established or registered in such a country; or*
 - d. *An entity whose beneficial owner is situated in such a country; or*
 - e. *An Indian (or other) agent of such an entity; or*
 - f. *A natural person who is a citizen of such a country; or*
 - g. *A consortium or joint venture where any member of the consortium or joint venture falls under any of the above*
- IV. *The beneficial owner for the purpose of (III) above will be as under:*
 1. *In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.*

Explanation

- a. *"Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.*
- b. *"Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.*

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

V. *An Agent is a person employed to do any act for another, or to represent another in dealings with third person.*

VI. *The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.*

Note:

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

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

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

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

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

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

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

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

35.0 Order of Precedence:

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

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

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

For BHARAT HEAVY ELECTRICALS LTD

(General Manager - Purchase)

Enclosure:

01. Annexure-1: Pre Qualifying Requirements.
02. Annexure-2: Check List.
- ~~03. Annexure-3: Certificate by Chartered Accountant~~
04. Annexure-4: Reverse Auction Process Compliance Form
05. Annexure-5: Authorization of representative who will participate in the online Reverse Auction Process
06. Annexure-6: RA Price Confirmation and Breakup
07. Annexure-7: Integrity Pact
08. Annexure-8: Undertaking as per PQR C4 of Annexure-1 i.e. PQR
09. Annexure-9: Declaration reg. Related Firms & their areas of Activities
010. Annexure-10: DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 04TH JUNE, 2020 AND SUBSEQUENT ORDER(S)
011. Annexure 11: DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017
012. Annexure 12: Important information
013. Annexure-13: Bid security declaration

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ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	Package-A (Unit#1) Pkg-A.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client’s stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu . And Pkg-A.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU Package-B-(Unit#2) Pkg-B.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client’s stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu . And Pkg-B.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU			
	TENDER NO	BHE/PW/PUR/NTPRT-ECO MOD-SH & RH COIL REP U1& U2 /xxxxx		
	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)	NOT APPLICABLE	
B	BTechical PQR B.1 Not applicable B.2) Bidder must have, achieved/Executed any one of the following (i.e. B.2.1 OR B.2.2 OR B.2.3 OR B.2.4 Or B.2.5 or B.2.6) in last seven years as on the latest date of offer Submission: B.2.1: Bidder must have Executed Erection & Commissioning of At least One Boiler (Consisting of Pressure Parts of the same Unit as a Standalone bidder) or Power Cycle Piping of One unit of a Unit ≥100 MW. Or B.2.2: Bidder must have executed Erection of “Pressure Parts/Power Cycle” piping of 250 MT or higher tonnage against Single work order. Or B.2.3: Bidder must have executed Erection of “Pressure Parts/Power Cycle piping” each of 156 MT or higher tonnage against maximum Two work orders. Or B.2.4: Bidder must have executed Erection of “Pressure Parts/Power Cycle piping” each of 125 MT or higher tonnage against maximum Three work order	APPLICABLE		

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	Or B.2.5: Bidder must have successfully executed "Overhauling or R&M" of Boiler consist of Pressure parts or PCP of any rating, Or B.2.6 Bidder should have Executed Steam Turbo Generator (STG) work of one unit of ≥190 MW		
C.1	Bidders must have achieved an average annual financial turnover (audited) of Rs. 52.5.00 Lakhs or more over last three Financial Years (FY) i.e "2020-21, 2021-22 & 2022-23"	APPLICABLE	
C.2	NETWORTH (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive.	APPLICABLE	
C.3	PROFIT Bidder must have earned profit in any one of the Five Financial Years as applicable in the last Five Financial Years ("2018-2019, 2019-2020, 2020-21, 2021-22 & 2022-23 as on date") . Bidders to submit audited Balance sheet and Profit & Loss statement for the years as supporting documents.	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	Void		
E	Approval of Customer (if applicable): Note: Names of bidders (including consortium/Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval	NOT APPLICABLE	
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E		BY BHEL
G	Consortium tie-ups	NOT APPLICABLE	
<p><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></p> <p><u>Explanatory Notes for PQR B.1 (Technical)</u></p> <p>1. For the criteria (B.1), actual executed value shall be considered,</p> <p>2. 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> $P = R + \frac{0.425 \times R \times (X_N - X_0)}{X_0} + \frac{0.425 \times R \times (Y_N - Y_0)}{Y_0}$ <p>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).</p>			

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

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

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

- 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 / "WORK EXECUTION of the value as defined in PQR" in case of industry.
 - e. "BOILER LIGHT UP" in respect of Boiler / CFBC / ESP.
 - f. "CHARGING OF ATLEAST ONE PASS" in respect of ESP(R&M)
 - g. "GAS IN" in respect of HRSG.
 - h. "STEAM BLOWING" in respect of Power Cycle Piping.
 - i. "HYDRAULIC TEST"/ ANY OTHER EQUIVALENT TEST LIKE "100% RT/UT OF WELDED JOINTS" of the system in respect of Pressure parts/ LP Piping/CW Piping.
 - j. "FULL LOAD OPERATION OF THE UNIT" in respect of Insulation work.
 - k. "SYNCHRONISATION" in respect of STG / GTG.
 - l. "SPINNING" in respect of HTG.
 - m. "GAS IN" in respect of FGD
3. Boiler means HRSG or WHRB or any other types of Steam Generator.
4. Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass.
5. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5 TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating of the same in terms of MW shall be considered for evaluation.

Explanatory Notes for PQR –C (Financial):

C-1:

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

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

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

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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 'B' above should be in the last 7 years ending on the 'latest date of Bid Submission' of Tender irrespective of date of the start of work. Completion date shall be reckoned from the "Financial Year quarter of bid submission". (for e.g. -Work completed on 01.01.2014 shall be considered even if latest date of bid submission is 20.03.2021).
3. "Executed" means the bidder should have achieved the technical criteria specified in the Common QR even if the Contract has not been completed or closed.
4. In case the Experience/PO/WO certificate enclosed by bidders do not have separate break up of prices for the E&C portion for Electrical and C&I works (i.e. the certificates enclosed are for composite order for supply and erection of Electrical and C&I and other works if any), then value of Erection & Commissioning for the Electrical and C&I portion shall be considered as 15% of the price for supply & erection of Electrical and C&I.
5. Following shall be complied with in case of consortium:
 - a. The Prime Bidder and Consortium Partner(s) are required to enter in to a consortium agreement and certify to BHEL regarding existence and validity of their consortium agreement in line with validity period mentioned in NIT.
 - b. Prime Bidder and Consortium partners shall be approved by Customer for being considered for the tender (applicable if customer approval is required).
 - c. Number of partners including prime Bidder shall be NOT more than 3 (three).
 - d. Prime Bidder alone shall necessarily comply with "B1 Technical Criteria" except for mechanical package where B1 criteria is not applicable.
 - e. Prime Bidder and Consortium Partner shall together comply with the 'Pre-Qualification Requirements' specified for the respective category of technical requirement as per "B2 technical criteria".
 - f. Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified.
 - 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.

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| | <ul style="list-style-type: none">j. Performance shall be evaluated for Prime Bidder and the Consortium partner for their respective scope of work.k. In case the Consortium partner backs out, another consortium partner meeting the QRs, has to be engaged by Prime Bidder and if not, the respective work will be withdrawn and executed on risk and cost basis of the prime bidder.l. In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHELm. After successful execution of one work with a consortium partner under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.n. The Consortium partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. |
|--|--|

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

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

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Format-1: Not applicable

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Format-2: Not applicable

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

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16	Non-Disclosure Certificate	Applicable/ Not Applicable	YES/NO
17	Bank Account Details for E-Payment	Applicable/ Not Applicable	YES/NO
18	Capacity Evaluation of Bidder for current Tender	Applicable/ Not Applicable	YES/NO
19	Tie Ups/Consortium Agreement are submitted as per format	Applicable/ Not Applicable	YES/ NO
20	Power of Attorney for Submission of Tender/Signing Contract Agreement Power of Attorney of Consortium Partner.	Applicable/ Not Applicable	YES/NO
21	Analysis of Unit rates	Applicable/ Not Applicable	YES/NO
22	Annexure-5: Authorization of representative who will participate in the online Reverse Auction Process	Applicable/ Not Applicable	YES/NO
23	Annexure-6: RA Price Confirmation and Breakup	Applicable/ Not Applicable	YES/NO
24	Annexure-8: Undertaking as per PQR C4 of Annexure-1 i.e. PQR	Applicable/ Not Applicable	YES/NO
25	Annexure-9: Declaration reg. Related Firms & their areas of Activities (x) Other Tender documents as per this NIT.	Applicable/ Not Applicable	YES/NO
26	Annexure-10 Declaration regarding minimum local content	Applicable/ Not Applicable	YES/NO
27	Annexure-11: Declaration regarding compliance to restrictions under rule 144 (xi) of GFR 2017	Applicable/ Not Applicable	YES/NO
28	Annexure-13: Bid security Declaration	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. dtl:
....., Category: (Micro/Small/Medium)). (Copy enclosed).

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

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

~~(Strike off whichever is not applicable)~~

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

~~Or~~

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

~~Or~~

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

~~Date:~~

~~(Signature)~~

~~Name:~~

~~Membership Number:~~

~~Seal of the Chartered Accountant~~

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ANNEXURE-4

Reverse Auction Process Compliance Form

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

To

- 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.{ **BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979/U2/2980** } dt. {.....}

This letter is to confirm that:

- 1) The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
- 2) We have studied the Reverse Auction guidelines (as available on www.bhel.com), and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- 4) We also confirm that, in case we become L1 bidder, we will FAX/ email the price confirmation & break up of our quoted price as per Annexure - 6 within **two** working days (of BHEL) after completion of RA event, besides sending the same by registered post/ courier both to M/s. BHEL and M/s. {Service provider.}

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

With regards

Signature with company seal

Name:

Company / Organization:

Designation within Company / Organization:

Address of Company / Organization:

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

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ANNEXURE – 5

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

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

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ANNEXURE – 6

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

To

- M/s. Service provider
- Postal address

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

Sub: Final price quoted during Reverse Auction and price breakup

Dear Sir,

We confirm that we have quoted.

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

for item(s) covered under tender enquiry No. BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979

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

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

Yours sincerely,

For _____

Name:

Company:

Date:

Seal:

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ANNEXURE – 7

INTEGRITY PACT

Between

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

and

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

Preamble

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

Package-A (Unit#1)

Pkg-A.1 : Rectification /repair work of Superheater Platen, Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu.

And

Pkg-A.2 : Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU

Package-B (Unit#2)

Pkg-B.1 : Rectification /repair work of Superheater Platen, Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu.

And

Pkg-B.2 : Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU (ETS no.: BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979/U2/2980). 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:-

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- ~~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.~~

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

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

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2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

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

Section 4 – Compensation for Damages

4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/ Bid Security.

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

Section 5 – Previous Transgression

5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

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

6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors.

6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

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

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

Section 8 –Independent External Monitor(s)

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- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality in line with Non-disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- ~~8.9 IEM should examine the process integrity; they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organisation.~~
- 8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code/ Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

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8.12 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

9.1 This Pact shall be operative from the date IP is signed by both the parties till the final completion of contract for successful bidder and for all other bidders 6 months after the contract has been awarded. Issues like warranty / guarantee etc. should be outside the purview of IEMs.

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

Section 10 - Other Provisions

10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.

10.2 Changes and supplements as well as termination notices need to be made in writing.

10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.

10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.

10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

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For & On behalf of the Principal _____

For & On behalf of the Bidder/

Contractor

{Office Seal} _____

{Office Seal} _____

Place _____

Date _____

Witness: _____

Witness: _____

(Name & Address) _____

(Name & Address) _____

**BHEL PSWR
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ANNEXURE – 8

UNDERTAKING

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

To,

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

Dear Sir/Madam,

Sub: DECLARATION REGARDING INSOLVENCY/ LIQUIDATION/ BANKRUPTCY PROCEEDINGS

Ref: NIT/Tender Specification No: **BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979/U2/2980**

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:

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Annexure-9

DECLARATION

Date: _____

To

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

Sub: Details of related firms and their area of activities

Dear Sir/ Madam,

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

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

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

Regards,
(_____)

From: M/s _____
Supplier Code: _____
Address: _____

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

Dear Sir,

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

Ref : 1) NIT/Tender Specification No: **BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979/U2/2980**

2) All other pertinent issues till date

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

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

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

...

Thanking you,
Yours faithfully,

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

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

Note:

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

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Annexure-11

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

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

To,

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

Dear Sir,

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

Ref : 1) NIT/Tender Specification No **BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979/U2/2980**

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:

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

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

Manager Purchase, Email: vivekjha@bhel.in :9429198214

AGM Purchase, Email: pkbiswas@bhel.in. Ph: +91 – 712 – 2858 – 633

1. Refer the abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' which is available at www.bhel.com on "supplier registration page" at the following link: https://www.bhel.com/sites/default/files/suspension_guidelines_abridged.pdf
2. All Statutory Requirements as applicable for this project shall be complied with.
3. Following clause shall form part of the HSE documents issued under Chapter IX of Volume IB 'Special Conditions of Contract'

"In case of any financial deduction made by Customer for lapses of safety other than what is provided elsewhere in the contract, the same shall be charged on back-to-back basis on the defaulting contractor without prejudice to any other right spelt anywhere in the tender /contract"

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

5. ~~"Pradhan Mantri Kaushal Vikas Yojna: The contractor shall, at all stages of work deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/ National Institute of Construction Management and Research (NICMAR), National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/ Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer in Charge. Failure on the part of contractor to obtain approval of Engineer in Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs.100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding".~~

6. **Conflict of Interest among Bidders/ Agents:**

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

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

7. Acceptance of Bank Guarantee (BG)

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

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

"Bank Guarantee issued by:

- a. Any of the BHEL consortium bank listed below:

State Bank of India
 ABN Amro Bank N.V.
 Bank of Baroda
 Canara Bank
 Citi Bank N.A.
 Corporation Bank
 Deutsche Bank
 HDFC Bank Ltd.
 The Hongkong and Shanghai Banking Corporation Ltd
 ICICI Bank Ltd.
 IDBI Ltd.
 Punjab National Bank
 Standard Chartered Bank

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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.
3. Reverse Auction will be conducted if two or more bidders are techno-commercially qualified. In case of two or three qualified bidders, there shall be no elimination of H1 bidder (whose quote is highest in sealed envelope price bid). **In case of four qualified bidders, the H1 bidder shall be eliminated whereas in case of five qualified bidders, H1 & H2 bidders shall be eliminated. However, in case of six or more qualified bidders are available, RA would be conducted amongst first 50% of the bidders arranged in the order of prices from lowest to highest.** Number of bidders eligible for participating in RA would be rounded off to next higher integer value if number of qualified bidders is odd (e.g. if 7 bids are qualified, then RA will be conducted amongst lowest four bidders). However, there will be no elimination of qualified bidders who are MSE or qualifying under PPP-MII, Order 2017, provided their bids are within their respective margin of purchase preference **{presently 15% for MSEs and 20% for PPP-MII, or as amended from time to time}**.

In case of multiple H1 bidders, all H1 bidders (except MSEs and bidders qualifying under PPP-MII, Order 2017, who are within the margin of purchase preference) shall be removed provided minimum two bidders remain in fray, else no H1 removal.

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. Following clause of GCC shall not be applicable

- **Overrun Compensation (Clause no. 2.12 of GCC)**
- **PVC (Clause no. 2.17 of GCC)**
- **SECURED RECOVERABLE ADVANCES (Clause no. 2.13 of GCC)**

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11. PERFORMANCE GUARANTEE FOR WORKMANSHIP: As per Clause no 2.24 of General Conditions of contract with the amendment of "18 months commencing from the date of Completion of contract as certified by BHEL Engineer".

12. 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.

13. Progress Monitoring, Monthly Review and Performance Evaluation of Vol-I BCD is not applicable.

14. Modality of Tendering and Award:

This is a combined tender of two Packages (i.e. Package-A and Package-B)

- **Package-A (Unit#1)**

Pkg-A.1 : Rectification /repair work of Superheater Platen, Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu .

And

Pkg-A.2 : Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU

- **Package-B-(Unit#2)**

Pkg-B.1 : Rectification /repair work of Superheater Platen, Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu .

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And

Pkg-B.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU

- The entire scope of work has been divided in two packages (i.e. Package-A and Package-B). BOQ/Rate Schedule is same for Package-A and Package-B as mentioned in Chapter-XII. These packages are tendered together with item rate matching philosophy with following modality:
- Bidder has to submit their Price for Package-A only as indicated in the “ Volume-II-Price Bid” at BHEL e-procurement Portal.
- L-1 Bidder shall be considered for award of **Package-A (Unit#1)**
- For award of **Package-B-(Unit#2)** next bidder in the order of their price competitiveness (i.e. L-2, then L-3 and hence forth) shall be given an option to match their price/item rate, with the Awarded/Finalized price/item rate of **Package-A (Unit#1)**. In case none of the bidders agree to match the Awarded price/item rate of Package-A, then then BHEL may consider awarding the **Package-B (Unit#2)** to L-1 bidder or opt any other suitable method to finalize the **Package-B(Unit#2)**.
- Each package will be treated as a separate contract.
- Clause of GCC Viz SD, LD, Time Extension, Retention amount, guarantee period, Quantity variation, final bill etc shall be applicable for each individual package/contracts.
- All tender documents are common for both the Packages i.e. Package-A and Package-B.

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Annexure for Bid Security Declaration

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

To,

GM/Purchase
BHEL PSWR
Floor No. 5 & 6, Shree Mohini Complex,
345-Kingsway, Nagpur-440001

Dear Sir/Madam,

Sub: Bid Security Declaration

E-Tender Spec No: BHE/PW/PUR/NTPRT-SHRH-ECO-U1/2979/U2/2980

JOB Description :

Package-A (Unit#1)

Pkg-A.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu .

And

Pkg-A.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU

Package-B-(Unit#2)

Pkg-B.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu .

And

Pkg-B.2 :Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU

1. I/We Mr/ Ms..... authorised 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:

Registered Office: BHEL House, Siri Fort, New Delhi – 110 049, India
Website: www.bhel.com

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2980**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

**BHARAT HEAVY ELECTRICALS
LIMITED**



**Registered Office: BHEL House, Siri Fort, New Delhi – 110 049, India
Website: www.bhel.com**

TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

Sl. No	DESCRIPTION	Chapter
Volume-IA	Part-I: Contract specific details	
1.	Project Information	Chapter-I
2.	Scope of Works and Technical Specifications	Chapter-II
3.	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III
4.	T&Ps and MMEs to be deployed by Contractor	Chapter-IV
5.	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V
6.	Time Schedule	Chapter-VI
7.	Terms of Payment	Chapter-VII
8.	Taxes and other Duties	Chapter-VIII
9.	Welding, Heat Treatment & Radiography and Non-destructive Testing	Chapter-IX
10.	HYDRAULIC TEST	Chapter-X
11.	Estimated Weight for various systems in scope of work (BOQ)	Chapter-XI
12.	Bill of Quantities and % Weightage of Individual Items	Chapter-XII

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

SCOPE OF WORK

1. Project Information

Project Name: 3x800 MW Patratu Vidut Utpadan Nigam Ltd. (PVUNL) Patratu STPP The proposed site is located near Patratu town in Ramgarh district of Jharkhand.

The latitudes and longitudes of the site are as follows:

1	Project Name	3x800 MW Patratu Vidut Utpadan Nigam Ltd. (PVUNL) Patratu STPP	
2	Plant Site Location	Near Patratu town in Ramgarh district of Jharkhand	
3	Location Co-ordinate		
3.1	Corner name	Latitude	Longitude
3.2	Top Corner	23° 39 ' 00" N	85° 17' 51.5" E
3.3	Bottom Corner	23° 38 ' 12.5" N	85° 17' 27" E
3.4	Left Corner	23° 38 ' 22.5" N	85° 17' 10.6" E
3.5	Right Corner	23° 38 ' 40" N	85° 17' 57" E
4	Nearest Town/City	Patratu -03Kms Ramgarh- 30Kms Ranchi - 37Kms	
5	Nearest Railway Station	Patrat-4Kms	
6	Nearest Airport	Ranchi-45Kms	
7	Nearest Seaport	Kolkata-424Kms	
8	Nearest Road Access	Ranchi Patratu Ramgarh Rd	
9	Site Elevation	377M above MSL	
10	Ambient Temperature		
10.1	Mean of Daily Maximum Temperature	40°C (During May)	
10.2	Mean of Daily Minimum Temperature	10.7°C (During December)	
10.3	Wet Bulb Temperature	27°C (Maximum)	
11	Annual Rainfall	311 mm average annually	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

12	Wind Speed	0 to 39 Km/Hr
13	Wind Direction	East North East to West South West
14	Seismic Zone	Zone III as per IS:1893

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.



TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

2.1 JOB DESCRIPTION:

Pacakge-A ('Unit#1):

- 2.1.1 *Pkg-A.1: Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-1 at 3x800 MW 3x800 MW PVUNL Project Patratu .*

And

- 2.1.2 *Pkg-A.2 : Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#1 at 3X800 MW, PVUNL PROJECT PATRATU*

Package-B (Unit#2):

- 2.1.3 *Pkg-B.1 : Rectification /repair work of Superheater Platen,Superheater Finish and Finish Reheater Coils including Collection of materials from BHEL/Client's stores/Storage yard; Transportation to site in Boiler Unit-2 at 3x800 MW 3x800 MW PVUNL Project Patratu .*

And

- 2.1.4 *Pkg-B.2 : Dismantling, Fabrication, Erection, Welding, NDT of Economiser Hopper Structural members of Eco Hopper Duct in Unit#2 at 3X800 MW, PVUNL PROJECT PATRATU*

2.2 Detailed Detailed Scope of work covers for SH & RH coils repair works:

- 2.2.1 Issuance of material/Fresh Spool Pieces from BHEL Store yard, shifting to site location & Storage of Fresh Spool Pieces as per instruction of BHEL/PVUNL Engineers and Erection of Fresh Spool Pieces to required Elevation and returning of the excess fresh spool pieces to BHEL Storage yard.
- 2.2.2 Handling of SS tube materials at BHEL / Client's Stores / Storage Yard and transportation to site Erection, Testing (including assistance required during Hydro Test & Steam Blowing)
- 2.2.3 Erection of Material at the required location of modification i.e, El. 92 m .
- 2.2.4 Supply/Erection/Shifting of the scaffolding materials to required Elevation to prepare scaffolding arrangement inside of Furnace from El 75 Meter to El 92 Meter at both front and rear end of coil assembly to ensure safe access to perform the cutting, removal of tube, fit up & welding of bottom line of new field weld. In addition to major scaffolding works there is requirement of miscellaneous scaffolding arrangement works above roof area and El 89 meter if window cutting in furnace vertical wall panels to be done in process of restoration works to ensure safe access to all concerns.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

- 2.2.5 Arrangement of working platform for Storage & pre-fabrication of SS tube with waterproof covering at El. 92 M as suggested by BHEL Engineer. Required structural material will be provided by BHEL (free of cost), however, tarpaulins/GI Sheet has to be arranged by the bidder within the quoted rates. Dismantling of the platform may be carried out as per discretion of BHEL Engineer.
- 2.2.6 Removal of insulation iron parts (SS Wire Mesh & Pins) arrangement from the Coils and restoration of same after completion of the works
- 2.2.7 Cutting of the defective tube from top line, Grind off the affected seal band weld portion (only by grinding) and gouging to be performed as per procedure and then cutting of the defective tube at the bottom line and removal of defective tube below roof and then replacement with fresh tube as per procedure.
- 2.2.8 Cutting of fresh SS tubes supplied by BHEL using Grinding to required spool length as per fit-up requirement and edge preparation of Tubes
- 2.2.9 Edge Preparation of fresh spool supplied for restoration works and at Top Field weld and Bottom of Coil Assembly, Fit-up of Fresh Spool Piece and Welding of Top Butt Joint, Bottom Butt Joints and Fillet welding of Roof seal band Joints.
 - a. Total no. of tubes
 - i. RH Finish coil assy., R-13 – 106 nos.
 - ii. Superheater Platen Front Coil Assy-Front/Inlet - 70 Nos
 - iii. Superheater Platen Rear Coil Assy-Front/Inlet- 70 Nos
 - iv. Superheater Finish Front Coil Assy-Front /Inlet- 214 Nos
 - v. Superheater Finish Rear Coil Assy-Front /Inlet-214 nos
- 2.2.10 Laying of suitable Armoured Power Cable and other Panel arrangement to draw Power Supply from PSS. Tentative Major electrical accessories:
 - b. Main Switch-400A -2 Nos.
 - c. Main Switch-200 A- 4 Nos.
 - d. Main Switch-63A-10 Nos.
 - e. RCCB-100A-10 Nos.
 - f. RCCB-63A-20 Nos.
- 2.2.11 To Provide power supply connection (Distribution arrangement) for heating equipment's, area lighting, welding invertors, grinding machines etc.as per requirements of mechanical works in S-33 and R-13 coil assy.
- 2.2.12 Disconnecting/removal of above power supply facilities after successful completion of work as per instructions of BHEL Engineer
- 2.2.13 Cutting of Windows in Side Water wall panel in consultation with BHEL Engineer for easy access. Same has to be re-fixed (fit-up & welding) after completion of work. 100% RT shall have to be done for the window joints by the bidder/agency. Required welding consumables has to be arranged by the bidder within the quoted rates.
- 2.2.14 Arrangement for the Temporary locking (at the Top & Bottom) of the Coil Assembly as per BHEL Engineer instruction to arrest sliding of tubes as per drawing.
- 2.2.15 Cutting of Tubes at top line & near roof seal band, removal of top portion only with grinding

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

-
- 2.2.16 Gouging of roof seal band above Hi Crown Plate and Cutting of tubes at Bottom line and removal of defective tube bottom portion only with grinding
 - 2.2.17 Removal of MTM Pads/ Clamps & Acromats and re-fixing as per instruction by BHEL Engineer
 - 2.2.18 Edge preparation, fit up and welding of Bottom line butt joint (Total No's of Butt Joint-674 No's) and Joint inspection with BHEL/GE/PVUNL For butt joint welding clearance.
 - 2.2.19 Edge preparation, fit up & welding of Roof seal band fillet joint, (Total No's of Fillet Joint - 674 No's). Joint inspection with BHEL/GE/PVUNL For fillet welding clearance of roof seal band.
 - 2.2.20 Edge preparation, fit up and welding of Top line butt joint (Total No's of Butt Joint - 674 No's) and Joint inspection with BHEL/GE/PVUNL For butt joint welding clearance.
 - 2.2.21 NDT clearance of butt joint i.e. 100% RT Shall be done for butt joint and same to cleared in Radiography testing, Repair in RT if any to be attended.
 - 2.2.22 NDT clearance of fillet joint i.e. 100% DPT Shall be done for weld joint and same to cleared during testing, Repair if any to be attended.
 - 2.2.23 Preheating and PWHT of the welding to be performed as per approved EWS & WPS at site in between roof seal band and coil using ENiCrFe-3 electrode with PWHT at 690 Degree Celsius and later the hardness inspection of the same weld area to be performed. (Final PWHT Range will be as per Repair Procedure to be submitted by BHEL Trichy)
 - 2.2.24 L. 100% RT to be performed for the butt welded tube joints (Total no of joints -674 No's). (Final NDT Quantum will be as per Repair Procedure to be submitted by BHEL Trichy)
 - 2.2.25 M. 100% PAUT & DPT to be performed for the roof seal band weld area after welding & PWHT of roof seal band welding (Total no. of roof seal band joint-674 No's).
 - 2.2.26 Random Min. 10 % RT of Bottom Coil Tube bend as per instruction by BHEL/PVUNL
 - 2.2.27 Carrying out hardness inspection of all the Seal band Fillet joints.
 - 2.2.28 Random PAUT shall be taken for the Fillet weld joints.
 - 2.2.29 To perform weld visual & its inspection with BHEL/GE/PVUNL
 - 2.2.30 Arrangement and commissioning assistance works for the Hydraulic Test of both SH circuit after work completion which includes:-
 - g. Temporary scaffolding arrangement and installing test gags in MS, Separator and removal of HT plug & fixing of Disc after successful completion of Hydro test.
 - h. HT pressurization system includes readiness of HT Pump, suction and pressurization lines and Pressure Gauge arrangement
 - i. Full manpower assistance for opening/closing of isolation valves in HT activity as per procedure
 - j. HT & Steam Blowing activity may involve hangers locking & unlocking of SH & RH Circuit & associated pipelines.
 - k. Manpower Assistance for Steam Blowing of the Superheater Circuit.
 - 2.2.31 Area Cleaning, temporary structure cutting/removal and return of scrap i.e, defective tubes removed in restoration works, excess fresh SS tubes and sample collection and return to BHEL store
 - 2.2.32 Restoration of tubes of Window Cutting as per approved EWS includes fit-up, welding and PWHT of Butt Joints and Fin welding, if performed in Furnace Vertical wall panel and Backpass extended wall panel for providing safe access/approach to workers.
-

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

-
- 2.2.33 Restoration of tubes of Window Cutting as per approved EWS includes fit-up, welding and PWHT of Butt Joints and Fin welding, if performed in Furnace Vertical wall panel and Backpass extended wall panel for providing safe access/approach to workers.
- 2.2.34 Material reconciliation.

2.3 Detailed Scope of work covers for Eco hopper strengthening work the following: -

1. Handling of materials at BHEL / Client's Stores / Storage Yard and transportation to site
2. Arrangement of Temporary Scaffolding arrangements inside and outside of ECO Duct
3. Dismantling of the existing Structural Members
4. Fabrication of Structural Members as per drawing
5. Erection of Material at the required location of modification
6. Alignment/ Welding and NDT of Newly erected members
7. All typ of joint checking with customer
8. Area Cleaning, temporary structure cutting/removal and return of scrap i.e, old removed during dismantling works, excess materials to BHEL store
9. Material reconciliation.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

Tentative weight of structures required for strengthening of the Eco hoppers:

Structural BOQ/Unit (KG)	
DESC	Wt (Kg)
ISMB-300	1,639
ISMB-400	812
PL.16	17,544
PL. 25	2,175
PL. 32	119
PL.12	9,220
PL. 20	1,269
ISA 150X150X16	2,585
ISA 200X200X16	4,156
PIPE DIA 219	2,708
PIPE DIA 168	11,504
PL. 10	449
C-250	11,533
Total	65,713

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

Facilities in the scope of Contractor/BHEL:

Sl. No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	ESTABLISHMENT			
3.1.1	FOR CONSTRUCTION PURPOSE:			
a	Open space for office (as per availability, if provided it will be free of cost)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability, if provided it will be free of cost)	Yes		Location will be finalized after joint survey with owner
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office 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	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
a	Open space for labour colony (as per availability)		Yes	Agency has to make his own arrangement at his own cost.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2	ELECTRICITY			
3.2.1	Electricity For construction purposes only of Voltage 415/440 V, 3 phase, 50Hz	Yes		At 1 Locations -Single point on free of charge basis + applicable taxes, duties, levy etc. Applicable charges shall be as per rate of PVUNL prevailing during the execution period.
a	Single point source	Yes		At a distance of 500 M from site (Distance is only tentative, it may vary upto an extent depending on site condition)

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

Sl. No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	Electricity for the office, stores, canteen etc of the bidder	Yes		
a	Single point source (free of charge basis)	Yes		At a distance of 500 M from site (Distance is only estimated, it may vary upto an extent depending on site condition)
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc		Yes	Agency has to make his own arrangement at his own cost.
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3	WATER SUPPLY			
3.3.1	For construction purposes: (Single point source provided by BHEL)	Yes		On free of charge basis
a	Making the water available at single point	Yes		
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	Agency has Agency has to make his own arrangement at his own cost.
3.3.2	Water supply for bidder's office, stores, canteen etc.			
a	Making the water available at single point		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

Sl. No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	<u>Water supply for Living Purpose</u>			
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.4	LIGHTING			
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3 At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.5	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			
a	Telephone, fax, internet, intranet, e-mail etc.		Yes	
3.6	COMPRESSED AIR wherever required for the work		YES	
a	Supply of Compressor and all other equipments required for compressor & compressed air system including pipes, valves, storage systems etc		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

Sl. No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Installation of above system and operation & maintenance of the same		Yes	
c	Supply of the all the consumables for the above system during the contract period		Yes	
3.7	Demobilization of all the above facilities		Yes	
3.8	TRANSPORTATION			
a	For site personnel of the bidder		Yes	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

3.10 ELECTRICITY:

- 3.10.1 The construction power (415V) will be provided at a single point for construction purpose only on free of cost basis and the further distribution is to be arranged by the bidder at his cost. Construction power shall be provided from the nearest Substation / tapping point.
- 3.10.2 Any duty, deposit involved in getting the Electricity shall be borne by the bidder. As regards to contractor's office shed also, all such expenditure shall be borne by the contractor.
- 3.10.3 Provision of distribution of electrical power from the given single central common point to the required places with proper distribution boards, approved cables and cable laying including supply of all materials like cables, switch boards, pipes etc., observing the safety rules laid down by electrical authority of the State / BHEL / their customer with appropriate statutory requirements shall be the responsibility of the tenderer / contractor.
- 3.10.4 BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage / frequency or interruptions in power supply.
- 3.10.5 Necessary "Capacitor Banks" to improve the Power factor to a minimum of 0.9 shall be provided by the contractor at his cost. Penalty if any levied by customer on this account will be recovered from contractor's bills.
- 3.10.6 Contractor has to make his own arrangements for his electricity requirement for his labour colony at his cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

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

3.11 CONSTRUCTION WATER

- 3.1.1. Water (Raw water) required for construction purposes will be provided at one single point within the plant area on free of cost basis.
- 3.1.2. In case of non-availability of water, the contractor shall make his own arrangements of **water suitable for construction purpose** to have uninterrupted work. No separate payment shall be made for any contingency arrangement made by contractor, due to delay / failure for providing water supply. Contractor has to make his own arrangements for his water requirement for his labour colony at his cost.

3.12 DRINKING WATER

Bidder shall provide drinking water at the work spot at their cost.

3.13 CONSUMABLES:

- 3.13.1 All the required electrodes (Except Supplied by the Manufacturing Units) (in his scope) as approved by BHEL shall be arranged by contractor at his cost. It shall be the responsibility of the contractor to obtain prior approval of BHEL, before procurement regarding, suppliers, type of electrodes etc. On receipt of the electrodes at site, it shall be subject to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number and date of expiry etc.
- 3.13.2 All other electrodes/Filler Wires including stainless steel electrodes required for shall be arranged by the contractor at his cost.. The bidder shall use the Customer approved quality welding electrodes only.
- 3.13.3 The contractor shall provide within finally accepted price / rates, all consumables like welding electrodes (including alloy steel and stainless steel), all gases (inert, welding, and cutting), soldering material, dye penetrants, radiography films. Other erection consumables such as tapes, jointing compound, grease, mobile oil, M-seal, Araldite, petrol, CTC / other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, H&S, packers, shims, wooden planks, scaffolding and pre-assembly materials, hardware items etc. required for temporary works such as supports, scaffoldings, bed are to be arranged by him. Sealing compounds, gaskets, gland packing, wooden sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by him.

Note: List of approved vendors attached as file Named: 'Annexure-2 Approved list of welding electrodes supplier'.

3.14 MATERIAL SUPPLY:

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

BHEL will supply the materials / equipments indicated in the weight schedule from their respective manufacturing units which are to be executed / incorporated in the permanent system.

3.15 LIGHTING FACILITY:

Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, pre assembly yard and contractor's material storage area etc. at his cost, w.r.t subject tender.

3.16 GASES:

- 3.16.1 All the required gases like Oxygen / Acetylene / argon / Nitrogen required for work shall be supplied by the Contractor at his cost. It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of these gases. Non availability of gases cannot be considered as reason for not attaining the required progress. BHEL reserves the right to reject the use of any gas in case required purity is not maintained.
- 3.16.2 The contractor shall submit weekly / fortnightly / monthly statement report regarding consumption of all consumables for cost analysis purposes.
- 3.16.3 The contractor shall ensure safe keeping of the inflammable cylinder at a separate place away from normal habit with proper security etc.
- 3.16.4 BHEL reserves the right to reject the use of any gas in case required purity is not maintained.

3.17 ELECTRODES SUPPLY AND STORAGE

- 3.17.1 The bidder shall use the BHEL / Customer approved quality welding electrodes only.
- 3.17.1 It shall be the responsibility of the contractor to obtain prior approval of BHEL, before procurement, regarding suppliers, type of electrodes etc. On receipt of the electrodes at site, it shall be subject to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number and date of expiry etc.
- 3.17.2 Shortage of any of the electrodes or the equivalent suggested by BHEL shall not be quoted as reason for deficiency in progress or for additional rate.
- 3.17.3 Storage of electrodes shall be done in an air conditioned / controlled humidity room as per requirement, at his own cost by the contractor.
- 3.17.4 All low hydrogen electrodes shall be baked / dried in the electrode drying oven (range 375 deg. C - 425 deg. C) to the temperature and period specified by the BHEL Engineer before they are used in erection work and each welder should be provided with one portable electrode drying oven at the work spot. Electrode drying oven and portable drying ovens shall be provided by contractor at his cost.
- 3.17.5 In case of improper arrangement of procurement of above electrodes BHEL reserves the right to procure the same from any source and recover the cost from the contractor's first subsequent bills at market value plus departmental charges of BHEL communicated from time to time. Postponement of such recovery is not permitted.
- 3.17.6 BHEL reserves the right to reject the use of any electrodes at any stage, if found defective because of bad quality, improper storage, date expiry, unapproved type of electrodes etc. It shall be the responsibility of the contractor to replace at his cost without loss of time.

3.18 OTHER FACILITIES:

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

(Scope Matrix)

- 3.18.1 Vendors have to comply requirements of HSE & Statutory requirement in line with BHEL HSE plan, PVUNL Safety requirement, Jharkhand/Central statutory requirement.
- 3.18.2 Agency has to arrange trained scaffolding experts with accreditation from statutory agencies with proper experience and they will issue fitness certificates for safe use. Such kind of qualified scaffolding experts will vary as per job requirement. At the same time, training has to be given by these experts at regular intervals for their own workers for increasing no. of experts.
- 3.18.3 Agencies HSE officers should have sufficient experience as per rule 209 of Bocw act central rule 1998. Agencies HSE officers will be part of BHEL HSE Team and they will be responsible for giving training on HSE issues in addition to normal field works and other normal site requirements.
- 3.18.4 Preparation of method statement, HIRA, Job Safety analysis, permit to work, Lifting plans, and all supporting documents as required for starting & continuation of work/job is in vendor's scope.
- 3.18.5 **Hydras are not allowed for materials transport, only pick and carry cranes shall be deployed by the agency.**
- 3.18.6 Scaffolding pipes, clamps, safety nets, floor grills for working platforms are to be made of good quality with proper certifications as per IS Codes.

3.19 SITE ORGANISATION

- 3.19.1 The contractor shall provide adequate staffing in the following areas in addition to the staffing requirements of execution as instructed/informed by BHEL:
 - i. Overall planning, monitoring & control.
 - ii. Quality control and quality assurance.
 - iii. Materials management.
 - iv. Safety, fire & security.
 - v. Industrial relations and fulfilment of labour laws and other statutory obligations.
- 3.19.2 The contractor shall maintain a site organization of adequate strength in respect of manpower, construction machinery and other implements at all times for smooth execution of the contract. This organization shall be reinforced from time to time, as required to make up for slippage from the schedule without any commercial implication to BHEL. The site organization shall be headed by a competent construction manager having sufficient authority to take decisions at site.
- 3.19.3 The contractor should also submit to BHEL for approval a list of construction equipment, erection tools, tackle etc prior to commencement of site activities. These tools & tackles shall not be removed from site without written permission of BHEL.

The list of T&Ps, MMEs, Consumables & Manpower are provided hereunder to be mobilized by the contractor as per mobilization time mentioned in Annexure-I. These will be physically verified by BHEL site Engineer. BHEL has the authority to penalize the contractor suitably including termination of contract if the required T&P's are not mobilized timely. However, it may be noted that the T&P list is only a guide for bidding and any other T&P as may be required for the job has to be mobilized by the successful bidder.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

4.1 MAJOR TOOLS AND PLANTS & MMEs TO BE DEPLOYED BY THE CONTRACTOR

The following minimum major Tools & Plants (T&P) shall be arranged by the Contractor within the quoted rate for execution of this contract.

Table-1 : List of major T&Ps:

S.N.	DESCRIPTION		Pkg-A (Unit#1)	Pkg-B (Unit#2)	Remarks
		MINIMUM CAPACITY	MINIMUM QUANTITY - Nos	MINIMUM QUANTITY- Nos	
1.	Tyre mounted pick & carry crane	12 - 14 MT	02	02	Deployment as per site requirement with consultation of Site Engineer
2.	Trailer with pulling unit	20/30 TON	01	01	Deployment as per site requirement with consultation of Site Engineer
3.	Mobile Crane	80 MT	01	01	Deployment as per site requirement with consultation of Construction manager .

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

Table-2 : List of Other T&Ps:

Sl no	Description Of Equipments	Capacity (Minimum)	Minimum Quantity Pkg-A (Unit#1)	Minimum Quantity Pkg-B (Unit#2)	Remarks
1	Cutting Wheel	Nos			As required
2	Welding Invertors/Generators,400A		20 Nos	20 Nos	Additonal deplyement as per site requirmenet
2	Grinding Wheel	Nos			As required
3	Milling Cutter	Nos			As required
4	Purge Paper	Rolls			As required
5	Hand Gloves Leather	Pair			As required
6	Hand Gloves Cotton	Pair			As required
7	Hand Gloves Short for IBR	Pair			As required
8	Welding Helmet	Nos			As required
9	Black Glass	Nos			As required
10	White Glass	Nos			As required
11	Chisel	Nos			As required
12	Hack Saw Blade	Nos			As required
13	Safety Belt	Nos			As required

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

Sl no	Description Of Equipments	Capacity (Minimum)	Minimum Quantity Pkg-A (Unit#1)	Minimum Quantity Pkg-B (Unit#2)	Remarks
14	Safety Helmet	Nos			As required
15	Safety Shoes	Nos			As required
16	Measuring Tape	Nos			As required
17	Right Angle	Nos			As required
18	Walkie Talkie	Nos			As required
19	Plumb	Nos			As required
20	Sprit Level	Nos			As required
21	Water Level	Nos			As required
22	Nut and Bolt for Clamps	Nos			As required
23	Welding Cables	Mtrs			As required
24	Copper Cable	Mtrs			As required
25	Welding Holder	Nos			As required
26	Argon Set With regulator	Nos	30 nos	30 nos	As required
27	Extra Regulator for Purging	Nos			As required
28	Tungsten Rod	Nos			As required
29	Copper Tube	Rolls			As required
30	Blue Hose Pipe	Rolls			As required

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

Sl no	Description Of Equipments	Capacity (Minimum)	Minimum Quantity Pkg-A (Unit#1)	Minimum Quantity Pkg-B (Unit#2)	Remarks
31	Apron	Nos			As required
32	Lug guard	Nos			As required
33	Hand Sleeve	Nos			As required
34	Face Mask	Nos			As required
35	Safety Jacket	Nos			As required
36	Goggles	Nos			As required
37	Brown Tape	Nos			As required
38	Cutting Hose	Mtrs			As required
39	Cutting Torch	Nos			As required
40	Oxygen and LPG Regulators	Nos			As required
41	Oxygen Cylinder	Nos			As required
42	LPG	Nos			As required
44	Argon Cylinder	Nos			As required
47	63 A, Ext. DB	Nos			As required
48	50 Sq.mm x3.5 C Armored Aluminum Cable	Mtrs			As required
49	4C x 6 sqmm Copper cable	Roll			As required
50	LED 200A light with power cable	nos			As required

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

Sl no	Description Of Equipments	Capacity (Minimum)	Minimum Quantity Pkg-A (Unit#1)	Minimum Quantity Pkg-B (Unit#2)	Remarks
51	Life line rope 8mm	Mtrs			As required
53	Fire proof & Water Proof tarpaulins	nos			As required
54	AG-4/AG5 Grinding machine	nos			As required
55	Straight Grinding machine	nos			As required
56	FF2 Machine	nos			As required
57	Power Cable for Grinding Machine(2.5x 3C)	Rolls			As required
58	16 A, Male and female plugs	nos			As required
59	Chapsaw cutting machine	nos			As required
60	32A, Male and female plugs	Nos			As required
61	Power Cable for Grinding Machine(1.5x 2C)	Rolls			As required
62	Boiler Suit	Nos			As required
63	Chain Pulley Block	Nos.			As required
64	Ratchet	Nos.			As required
65	Welding Machines	Nos.	20 Nos	20 Nos	As required
66	D G Set Min Capacity 250 KVA	Nos.	1 nos	1 Nos	As required
67	Trailer	Nos.			As required
69	Winch Machine	Nos.			As required
70	Pressure Gauge upto 600Kg/Cm2		2 Nos.	2 Nos.	
71	Scaffolding Pipes (6mtr & 3mtrs)				As required

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

Sl no	Description Of Equipments	Capacity (Minimum)	Minimum Quantity Pkg-A (Unit#1)	Minimum Quantity Pkg-B (Unit#2)	Remarks
72	Scaffolding Pipe Clamps (Fixed & Swivel conforming to EN-374				As required
73.	PID for Pre Heat & PWHT		12	12	As required
74	Recorder		30	30	As required
75	RT Source	10 Curie (minimum)	2Nos	2Nos	As required
76	Baking Oven				As required
77	Holding Oven				As required
78	Portable Oven				As required
79	DPT Kit				As required
80	Hardness Machine				As required
81	Spectrometer or PMI Machine		01 Nos	01 Nos	As Required

Notes:

The above list of T&Ps is tentative and any T&P required for the execution of job, not mentioned above, shall have to be made available by the bidder within the quoted rates.

- 4.2 All the T&Ps required for this scope of work, except the Tools & Plants provided by BHEL are to be arranged by the contractor with in the quoted rates.
- 4.3 The contractor to furnish a list of Tools and plants including tractors / trailers/ trucks etc. which contractor proposed to deploy for this work.
- 4.4 For handling at store and transportation, contractor shall make his own arrangement.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

- 4.5 For transportation, material handling, loading& unloading of all components / equipments, the contractor has to make his own arrangements at his own cost. BHEL will not provide any crane / T&Ps for unloading the above components. All necessary T&P such as, Trailers, Cranes Winches, Welding generators, Slings, Jacks, Sleepers, Rails etc. are to be arranged by the contractor.
- 4.6 All the T & P, lifting tackles including wire ropes, slings, shackles and electrically operated equipment shall be got approved by BHEL Engineer before they are actually put on use. Test certificates obtained from the statutory authority should be submitted before their usage.
- 4.7 All the T & P arranged by contractor including electrical connections wherein required shall be reliable / proven / tested with necessary test certificate.
- 4.8 All instruments, measuring tools etc. are to be calibrated periodically as per the requirement of BHEL and necessary calibration certificates are to be submitted to BHEL before use.
- 4.9 Crane operators deployed by the contractor shall be tested by BHEL before he is allowed to operate the cranes.
- 4.10 Also Refer Chapter-V in connection with BHEL T&Ps V of this booklet.
- 4.11 Other Relevant clauses shall be referred in Special Conditions of Contract (SCC)
- 4.12 **All above T&Ps are to be deployed by contractor as and when required as per instruction of BHEL engineer. If work gets delayed due to non-availability of above T&Ps, BHEL reserves the right to procure/hire the equipment/ T&P and get the work done and charge the contractor as per current market rate/hiring rate + applicable BHEL overhead.**

4.13 Measuring and Monitoring Equipments (MMEs): As per requirement to be finalized at site, shall meet the requirements as per field quality plan and other erection, testing related activities.

Note:

1. This above list of T&Ps (apart from Major 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.
2. 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.
3. Necessary electrical / water / air connection required for operation of any of the tools & tackles shall be to Contractor's account.
4. Contractor has to submit the Calibration certificates of all the precision Equipement to BHEL. BHEL may ask for recalibration of the MME"s /precision equipments for ensuring quality of work. Contractor must reascertain/ recheck range and accuracy of each IMTE from BHEL Engineer well in advance before arranging calibration/ deployment.
5. **Considering operational safety, the use of material handling equipment "HYDRA" is banned. agencies has to deploy the Pick & Carry cranes (Farana) of required capacity.**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

6. Any T&P"s, Cranes, Slings, D-shackles, Winch Machines 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. Any or part or all of the T&Ps of the contractor identified for the tendered package shall not be engaged for any works other than that of the works intended in this tender.
8. If the work related to T & Ps mentioned above is completed then, BHEL can release that T & P during contract period / extended period if any. However, written permission shall be taken by contractor from BHEL construction Manager for releasing the T&P.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: T&Ps to be deployed by BHEL free of hire charges on sharing basis

5.1: HT Pump of required capacity will be provided by BHEL at free of cost .However, required shifting and electrical connections shall be done by the bidder

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VI: Time Schedule

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION:

After receipt of fax LOI, Contractor shall discuss with Project Manager / Construction Manager/BHEL Site In charge regarding mobilization. A Full-fledged team with T&P shall be mobilized **within 3 days on receipt of LOA or BHEL intimation.**

6.1.2 MOBILIZATION FOR ERECTION, TESTING, ASSISTANCE FOR COMMISSIONING, OVERHAULING ETC FOR Pkg-A.1 & pkg-B.1 .

The activities shall be started as per directions of Site in charge of BHEL. Contractor shall mobilize further resources (in addition to those required for activities under clause no. 6.1.1) as per requirement to commence the work and progressively augment the resources to match schedule of the project.

WORK COMPLETION TIME SCHEDULE IS THE ESSENCE OF THIS CONTRACT. SUBCONTRACTOR SHOULD COMPLETE ALL WORK WITHIN **60 DAYS FROM THE DATE OF START.**

Contractor has to deploy resources in each area/front parallelly so as to complete the work within contractual Period.

6.1.3 MOBILIZATION FOR STRENGTHENING OF THE ECO HOPPER FOR Pkg-A.2 And pkg-B.2.

The activities shall be started as per directions of Site in charge of BHEL. Contractor shall mobilize further resources as per requirement to commence the work and progressively augment the resources to match schedule of the project.

WORK COMPLETION TIME SCHEDULE IS THE ESSENCE OF THIS CONTRACT. **SUBCONTRACTOR SHOULD COMPLETE ALL WORK WITHIN 40 DAYS FROM THE DATE OF START.**

Contractor has to deploy resources in each area/front parallelly so as to complete the work within contractual Period.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VI: Time Schedule

6.1.3.1 INTERMEDIATE MILESTONES FOR PKG- Package-A (Unit#1) Pacakge –B(Unit#2)

Milestones	Activity	To be completed by	
M1	Cutting of bottom tubes (674 nos) & Roof seal band gauging	45 th Day from Date of start of RH & Sh coil rectification work	
M2	Completion of Upper Truss Works of ECO hopper	20 th Day from the date of Start of Eco hopper strengthening Work	

Refer clause no 12 of NIT “Annexure- 012” regarding modalities against provision of penalty in case of slippage of Intermediate Milestones.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: TERMS OF PAYMENT

Terms of Payments:

(7.1) Payment terms for Strengthening of the Eco hopper and ECO duct.

(A) Break up of 80% Payment :- 80% of the payment shall be made after completion of the job with respect to BOQ. Payment shall be made after completion of work for items against Sl. No.- 1 to 8. The payment shall be made on pro rata basis through RA Bills (Running Account Bills) and payment break up shall be as follows: -

S No	Description	Billing Break Up Weightage
1	Erection Works	20%
2	Dismantling of Existing Structure (If not applicable shall be clubbed with Erection Works)	10%
3	Alteration/Modification/Fabrication to Structure (If not applicable shall be clubbed with Erection Works)	10%
4	Re-Erection of Dismantled Structure (If not applicable shall be clubbed with Erection Works)	10%
5	Alignment Works	10%
6	Welding Works (If not applicable shall be clubbed with Alignment Works)	10%
7	NDT Works (If not applicable shall be clubbed with Welding Works)	10%

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: TERMS OF PAYMENT

(B).Break up of Balance 20% Payment:-

Sl. No	Particulars	% allocation
1	Completion of Internal Hopper Works	6%
2	Completion of External Strengthening Works	6%
4	Liquidation of pending points	3%
5	Reconciliation of issued materials, disposal of old / dismantled/ surplus material at appropriate place (as indicated by BHEL/PVUNL)	4%
6	Completion of all contractual Obligation and de-mobilization	1%
	Total	20%

(7.2) Payment terms for rectification of the SH & RH coils

Terms of Payments:

- (A) **Break up of 80% Payment :-** 80% of the payment shall be made after completion of the job with respect to BOQ. Payment shall be made after completion of work for items against Sl. No.- 1 to 8. The payment shall made on pro rata basis through RA Bills (Running Account Bills) and payment break up shall be as follows: -

Sl. No	Description of work	Payment Terms
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: TERMS OF PAYMENT

1.	Completion of cutting of defective tubes	15%
2.	Completion of erection / fit-up of tubes	25%
3	Alignment & welding (Including Attachment welding as applicable)	20%
4	Completion of non-destructive Test & stress relieving / heat treatment (As applicable)	10%
5	Supply & Application of Touch up/finish painting for Newly Erected Structure, Restored structure, Buckstay, Floor Members etc	-----
6	Arrangement and erection of scaffolding at required areas for Coil Modification Works	5%
7	Dismantling of scaffolding bottom arranged for Coil Modification Works	5%
	Total	80%

(B).Break up of Balance 20% Payment:-

Sl. No	Particulars	% allocation
1	Completion of Joints Welding including Heat Seal Band Welding	3%
2	Completion of HT	5%
3	Liquidation of pending points	4%
4	Completion of Steam Blowing of SH & RH Circuit	3%

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: TERMS OF PAYMENT

5	Reconciliation of issued materials, disposal of old / dismantled/ surplus material at appropriate place (as indicated by BHEL/PVUNL)	4%
6	Completion of all contractual Obligation and de-mobilization	1%
	Total	20%

- i. The successful bidder may submit two nos. RA bills in a month as per billing break-up of the tender. The measurement will be taken by BHEL engineer as per relevant clause of GCC & SCC and certify regarding the actual work executed in the measurement book and bills for work.
- ii. Progressive payment shall be made by BHEL against successful bidder's RA bill, complete & correct in all respects accompanied by BHEL engineer's certified/ measurement sheet, jointly signed; requisite statutory certificates, certified by BHEL; within 30 days of submission of the bill. The bill shall also accompany the monthly progress report.
- iii. However no extra payment shall be made in the event of a deferment in payment.
- iv. For all items of work as per the break-up, interim payment shall be limited to 95% of the gross value of interim bill. **Balance 5 % shall be released on completion of guarantee period.** However, this 5%, retained from each RA bill, may be released against submission of a separate bank guarantee as per Performance Bank Guarantee format, to be kept valid till guarantee period, subject to (i) Receipt of certificate that all works are completed in all respects; (ii) Reconciliation of materials/ T&P/ MMD; (iii) Completion of final bill formalities and (iv) Handing over to BHEL/ customer.
- v. Out of above 95%,
 - a. 2.5% of gross bill amount shall be paid in the following manner on certification by BHEL engineer after compliance of each of following activity in each month. In case of non-fulfillment of respective activity by successful bidder in each month, no payment shall be made by BHEL against corresponding activity and no claim of successful bidder, at a later date, whatsoever, in this regard will be entertained by BHEL.
 - i. 0.5% shall be paid on compliance of housekeeping of successful bidder's working area and store/ office areas.
 - ii. 0.5% shall be paid on compliance of Quality Requirements of successful bidder's working area and stores, office area.
 - iii. 0.5% shall be paid on compliance of applicable OHSAS requirement as per guidelines of BHEL and as specified in the tender.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: TERMS OF PAYMENT

- iv. 0.75% shall be paid on compliance of applicable safety requirement as per guidelines of BHEL and as specified in the tender.
- v. 0.25% shall be paid on compliance of general illumination requirement as per guidelines of BHEL.
- b. 12.5% of gross bill amount shall be paid in the following manner on certification by BHEL Engineer after compliance of each following critical requirements as planned mutually with BHEL engineer. In case of non-fulfilment of respective requirement, payment shall be made on pro-rata basis by BHEL against corresponding activity as per agreed plan with BHEL engineer and on claim of successful bidder, at a later date, whatsoever, in this regard will be entertained by BHEL.
 - i. 5% shall be paid on mobilization of minimum numbers of IBR welders/welders/Fitter Gangs as planned by BHEL Engineer in L3 Schedule.
 - ii. 2.0% shall be paid on mobilization of minimum numbers of Welding Machines (400 Amps) as planned by BHEL Engineer in L3 Schedule
 - iii. 1.5% shall be paid on mobilization of minimum numbers of Scaffolding Pipes & Clamps of Required capacity as planned by BHEL Engineer in L3 Schedule
 - iv. 2.5% shall be paid on mobilization of minimum required RT Source as planned by BHEL Engineer in L3 Schedule
 - v. 1.5% shall be paid on mobilization of Minimum required Pre-Heating Machines & PWHT Machines as planned by BHEL Engineer in L3 Schedule
- vi. Each RA bill shall accompany the latest agreed & jointly signed L-3/ construction schedule, as enumerated in this tender.
- vii. All admissible recovery/ adjustment, etc. shall be made from interim payable amount.
- viii. Further billing breaks up for release of progressive payment shall be made jointly at site.
- ix. Paying Authority: Construction Manager/Project Director, BHEL-Patratu Site.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Duties

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Duties

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

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

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

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

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

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

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,

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Duties

transporter shall issue tax invoice which inter alia includes gross weight of the consignment, name of the consigner and the consignee, registration number of vehicle in which the goods are transported, details of goods transported, details of place of origin and destination, GSTIN of the person liable for paying tax whether as consigner, consignee or goods transport agency, and also containing other information as mentioned under rule 46.

14. **TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills unless exemption certificate from the appropriate authority/ authorities is furnished.**
15. **TDS under GST shall be deducted at prevailing rates on applicable value from the running bills.**
16. **TCS under Income Tax 1961 has been implemented with effect from 1st October 2020 for every seller having turnover more than threshold limit during financial year immediately preceding financial year in which the sale of goods is carried out, who receives any amount as consideration for sale of any goods of the value or aggregate of such value exceeding threshold limit other than export of goods or who is already covered under other provision of section 206C, collect from the buyer, TCS as per applicable rates of the sale consideration exceeding threshold limit subject to following conditions**
 - i. Buyer shall be as per clause (a) of section 206C- (1H)
 - ii. Seller shall be as per clause (b) of section 206C- (1H)
 - iii. No TCS is to be collected, if the seller is liable to collect TCS under other provision of section 206C or the buyer is liable to deduct TDS under any provision of the Act and has deducted such amount.

If Successful Bidder is falling under the purview of TCS then he has to submit a declaration in that respect along with relevant financial statements before the start of work or if bidder is falling under preview of TCS during the work in progress then bidder is compulsorily required to submit relevant financial statement in the beginning of the respective FY.

For TCS claim, vendor has to submit relevant documents required as per Income Tax Act.

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

ANNEXURE-1

State wise GSTIN no.s of BHEL

Sl. No	Projects under state	GSTIN
1	Andhra Pradesh	37AAACB4146P7Z8
2	Bihar	10AAACB4146P1ZU

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Duties

3	Chhattisgarh	22AAACB4146P1ZP
4	Gujarat	24AAACB4146P1ZL
5	Jharkhand	20AAACB4146P5ZP
6	Madhya Pradesh	23AAACB4146P1ZN
7	Maharashtra	27AAACB4146P1ZF
8	Orissa	21AAACB4146P1ZR
9	Telangana	36AAACB4146P1ZG

ANNEXURE-2

BOCW Act & Cess Act

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Duties

under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.

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

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Chapter-VIII: Taxes and Duties

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 thereunde

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX Welding, Heat Treatment & Radiography and Non-destructive Testing

WELDING, HEAT TREATMENT & RADIOGRAPHY AND NON-DESTRUCTIVE TESTING

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

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

- 9.1 The SH coils and RH coils shall be erected in conformity with the provisions of Indian Boiler Regulations and as may be directed, as per other standard / specification in practice in BHEL. The method of welding (viz) ARC, TIG or other methods as indicated in the detailed drawing or as instructed by BHEL Engineer shall be followed. BHEL Engineer will have the option to change the method to suit site conditions.
- 9.2 Welding of coils shall be done by certified high pressure welders who possess valid certificate and who are approved by BHEL Engineer.
- 9.3 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.
- 9.4 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.
- 9.5 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.
- 9.6 The contractor shall carry out the root run welding of all HP / LP piping, valves by TIG welding method only. The contractor shall have to carry out full TIG welding of butt weld joints of tubes / pipes of lesser thickness if required. During the root runs of stainless steel joints, the contractor shall before and during welding have to purge the pipes with inert gas.
- 9.7 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.
- 9.8 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. The electrodes brought to the site will have valid manufacturing test certificate. The test certificate should have a co-relation with the lot number / batch number given on electrode packets. No electrodes will be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved / accredited test house traceable to National / International standards will be submitted to BHEL before putting the oven in use. The contractor shall also arrange periodical calibration for the same. Separate ovens shall be used for baking and holding.
- 9.9 All butt / fillet welds shall be subject to Non -Destructive testing as per the Drawing/Procedures/Welding Schedules/Documents at no additional cost.
- 9.10 The contractor shall maintain a record in the form as prescribed by BHEL of all operations carried out on each weld. He has to maintain a record indicating the number of welds, the names of welders who welded the same, date and time of start and completion, preheat temperature, radiographic results, rejection if any, percentage of rejection etc. and submit copies of the same to the BHEL Engineer as required. Interpretation of the BHEL Engineer regarding acceptability or otherwise of the welds shall be final.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX Welding, Heat Treatment & Radiography and Non-destructive Testing

- 9.11 The contractor shall carry out the edge preparation of weld joints at site in accordance with the details acceptable to BHEL Engineer. Wherever possible machining or automatic flame cutting should be done. Gas cutting will be allowed only wherever edge preparation otherwise is impractical. All slag / burrs shall be removed from the edge and all the hand cuts shall be ground smooth to the satisfaction of engineer. Prepared edges to be preserved / applied with weldable primer.
- 9.12 All welds shall be painted with anticorrosive red oxide paint once radiography and stress relieving works are over. Necessary consumables and scaffolding etc including paints shall be provided by contractor at his own cost.
- 9.13 Pre-heating, radiography and other NDT tests, post heating and stress relieving after welding of Coils tubes, are parts of erection work and shall be carried out by the contractor in accordance with the instructions of the Engineer. Contractor at his cost shall arrange all equipment and consumables essential for carrying out the above process.
- 9.14 Contractor shall arrange all necessary stress relieving equipment with automatic recording devices. The contractor shall arrange for labour, heating elements, thermocouples, thermo-chalks, temperature recorders, thermocouple attachment units, graphs, sheets insulating materials like asbestos cloth, ceramic beads, asbestos ropes etc. required for heat treatment/ stress-relieving operations. The contractor should take a note of the following,
- Temperature shall be measured by thermocouple and recorded on a continuous printing type recorder. All the recorded graphs for heat treatment works shall be the property of BHEL.
 - All stress relieving equipment will be used after due calibration and submission of test certificate to BHEL. Periodic calibration from Govt. Approved / accredited Test Houses traceable to National / International standards will also be arranged by the contractor for such equipment at his cost.
- The contractor shall obtain the signature of Engineer or his representative on the strip chart of the recorder prior to the starting of SR operations.
- 9.15 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. Ultrasonic testing, wherever required, will be arranged by contractor within the quoted rate.
- 9.16 The technical particulars, specification and other general details for radiography work shall be in accordance with ASME, IBR or ISO as specified by BHEL.
- 9.17 The contractor for radiography work shall use iridium-192/ Cobalt 60; the geometric un-sharpness shall not exceed 1.5 mm. The contractor should take adequate safety precautions while carrying out radiography. Contractor at his cost shall arrange necessary safe guards required for radiography (including personnel from BARC).
- 9.18 Low speed high contrasts, fine grain films (D-7 or equivalent) in 10 cm width only are used for weld joint radiography. Film density shall be between 1.5 and 2.0.
- 9.19 All radiographs shall be free from mechanical, chemical or process marks, to the extent they should not confuse the radiographic image and defect finding. Penetrameter as per ASME or ISO must be used for each exposure.
- 9.20 Lead numbers and letters are to be used (generally 6mm size) for identification of radiographs. Contract number, joint identification, source used, welder's identification and SFD are to be noted down on paper cover of radiograph.
- 9.21 Lead intensifying screens for front and back of the film should be used as per the above-referred ASME specification. The joint is to be marked with permanent mark A, B, C to identify the segments. For this a low stress stamp shall be used to stamp the pipe on the down streamside of the weld. For multiple exposures on pipes, an overlap of about 25-mm of film should be provided.
- 9.22 Radiography personnel with sufficient experience and certified by M/s BARC for conducting radiographic tests in accordance with safety rules laid down by Division of Radiological protection only have to be deployed. These personnel should also be registered with DRP / BARC for film badge service.
- 9.23 In case of radiography of less than 100%, the joints identified by BHEL at random shall be radiographed.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX Welding, Heat Treatment & Radiography and Non-destructive Testing

- 9.24 Contractor shall note that 100% radiography will be done at the initial stages on all the piping welding joints. Subsequently radiographic inspection will be done on the basis of quality of welding. However minimum percentage of joints to be radio graphed shall not be less than the requirement of BHEL welding schedule / IBR / Customer's requirements. The percentage may be increased depending upon the quality of joints and at the discretion of BHEL. Radiography on LP piping joints is not envisaged. However other NDT test as called for in the FQP including LPI, MPI and HT will have to be carried out.
- 9.25 All the Radiographs shall be properly preserved and shall become the property of BHEL. They are to be reconciled with the work done, joints radio graphed and submitted to BHEL / customer.
- 9.26 Since radioisotopes are being used, all precautions and safety rules as prescribed by BHEL/BARC/ Customer shall be strictly followed. BARC /DRP certificate to be provided before taking up the work.
- 9.27 Radiography of joints shall be so planned after welding, that the same is done either on the same day or next day of the welding to assess the performance of HP welders. If the performance of welder is unsatisfactory, he is to be replaced immediately.
- 9.28 Wherever radiographs are not accepted, on account of bad shot, joints shall be re-radiographed and re- submitted for evaluation.
- 9.29 However, if the defect persists after first repair, further repair work followed with radiography shall be repeated till the joint is made acceptable. In case the joint is not repairable, the same shall be cut, re-welded and re-radio graphed at contractor's cost.
- 9.30 Heat treatment and radiography may be required to be carried out at any time (day and night) to ensure the continuity of the progress. The contractor shall make all necessary arrangements including labour, supervisors/ Engineer required for the work as per directions of BHEL.
- 9.31 The contractor shall deploy required number of H.P. welders to carry out the H.P. weld joints. The welding works should not be held up due to shortage / want of I.B.R./H.P. welders.
- 9.32 All welded joints shall be subjected to acceptance by BHEL Engineer.
- 9.33 The technical particulars, specifications and other general details of work shall be in accordance with BHEL welding, Heat treatment and NDE manuals or equivalent as decided by BHEL Engineer.
- 9.34 Contractor shall carryout Radiography as per welding Manual booklet applicable as per IBR, enclosed. However percentage radiography shown in the respective drawings shall be final and binding on the contractors.
- 9.35 The field joints are to be radiographed and preheating and post weld heat treatment to be done as per BHEL procedure and manuals.
- 9.36 The percentage of Radiography are tentative, which may be increased depending upon the quality of joints at the discretion of BHEL.
- 9.37 Penetrometer as per ASME/ISO shall be used for all exposures.
- 9.38 Lead numbers and letters (generally of 6mm size) are to be used for identification of radiographic contract No., joints identification, sources used welders identification, SFD used are to be noted down in the paper cover of radiography. Lead intensifying screens for front and back of the film shall be used as per the instructions of BHEL Engineer
- 9.39 The weld joint is to be marked with permanent mark A, B, C, etc. to identify the segments. For this a low stress stamp shall be used to stamp the pipe on the downstream side of the weld. For multiple exposures on pipes, an overlap of about 25 mm of film shall be provided.
- 9.40 The contractor shall be fully equipped with radiography equipments, films, chemicals and other dark room facilities. There must be a number of radiographic personnel with sufficient experience and certified by BARC for field

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radiographic inspection. Further, the contractor must follow strictly the safety rules laid down by BARC, from time to time, contractor's radiographers shall also be registered with BARC for film badge service.

- 9.41 Contractor shall provide all skilled, unskilled work men required for the job, which will include Engineers, supervisors, operators, as required for timely and satisfactory execution of radiography work.
- 9.42 Radiography of joints shall be so planned after welding that the same is done either on the same day or next day of the welding to assess the performance of high pressure welders. If the performance of the welder is unsatisfactory, he shall be replaced immediately.
- 9.43 The defects as pointed out by the Engineer shall be rectified immediately to the satisfaction of Engineer and Re-radiographed. The decision of Engineer regarding acceptance or otherwise of the joint shall be final and binding on the contractor.
- 9.44 Wherever radiographs are not accepted on account of poor exposure, joints shall be re-radiographed and new film submitted for evaluation. Radiographs shall be taken again on joints after carrying out repairs. However, if the defect persists after first repair as per radiograph, carrying out radiography shall be repeated till the joint is made acceptable. In case the joint is not repairable, the same shall be cut, re-welded and re-radiographed at contractor's cost.
- 9.45 The contractor shall also be equipped for carrying out other NDT like liquid penetrant inspection, magnetic particle inspection, etc. as and when required in the interest of work within the quoted rates.
- 9.46 For carrying out ultrasonic testing of welded joints of large size tubes and pipes, it will be necessary to prepare the surface by grinding to a smooth finish and contour as desired by BHEL Engineer. The contractor's scope of work include such preparation and no extra charges are payable for this.
- 9.47 It may also become necessary to adopt inter layer radiography / MPT / UT depending upon the site/technical requirement necessitating interruptions in continuity of the work and making necessary arrangements for carrying out the above work. The contractor shall take all this into account and quote the price inclusive of all such work and radiography.
- 9.48 The welded surface irrespective of place of welding shall be cleaned of slag and painted at the center with primer paint to prevent corrosion at no extra cost towards this.
- 9.49 All welders shall be tested and approved by BHEL Engineer before they are actually engaged on work though they may possess the required certificate. BHEL reserves the right to reject any welders without assigning any reason. The welder Identification code as approved by the BHEL Engineer shall be stamped by the welder on each joint done by them. The contractor will be responsible for the periodic renewal, retesting of the welders as demanded by BHEL.
- 9.50 BHEL Engineer is entitled to stop any Welder from the work if his work is unsatisfactory for any technical reasons or there is a high percentage of rejection of joints welded by him, which in opinion of the BHEL Engineer will adversely affect the quality of the welding though the Welders, has earlier passed the tests prescribed by BHEL Engineers. The welders having passed qualification tests do not relieve the contractor of a contractual obligation to check the welder's performance.
- 9.51 All charges towards testing of Welders for destructive and non-destructive test, testing and approval of welders for engaging in the erection work shall be borne by the contractor.
- 9.52 The welding process, weld joint details, joint configuration and material specification may change to suit the design requirements. The contractors quoted rates shall be inclusive of each contingency.
- 9.53 MPI must be done on joints, those are undergone ultrasonic testing.
- 9.54 Preheating, inter-pass heating, post weld heating and stress relieving after welding are part of erection work and shall be performed by the Contractor in accordance with BHEL engineer's instructions. Where the electric resistance heating method is adopted Contractor shall make all arrangement including heating equipment with automatic recording devices, all heating elements, thermocouples and attachment units, graph sheets, thermal chinks, &

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insulating materials like mineral wool, asbestos cloth, ceramic beads, asbestos ropes etc, required for all heating and stress relieving works.

9.55 List of Penalties on Violations on Quality Provisions

Sr no	Violation	Penalty in Rs
1	Mother oven not working	500 per day & ban on its use
2	Slackness in control over baking of welding electrodes(Doc.)	200 per incident
3	Holding oven not working/plugged in	500 per incident/day & ban its use
4	Portable oven not working/Plugged in	100 per incident & welder to be sent home
5	Use of cold electrodes(Except E6013)	100 per incident & welder to be sent home
6	Unauthorized welder on job	500 per incident & welder to be sent home
7	Delay in NDT Agency deployment w.r.t jointly agreed Ere. Prog	500 per incident & welder to be sent home
8	Failure to monitor Welder's Performance (RT, SR, Penalty Joint etc.)	5000 per week
9	Improper acts w.r.t maintain SR Charts	10000 per incident
10	Site Welding/QLY Engineer not deployed w.r.t mutually agreed Ere. Plan	500 per day
11	Delay in (RT, SR, UT) report submission & customer acceptance Log sheets esp. for Billed qty. from dt. of Billing (Vendor)	10,000 per week
12	Lack of safe approach Scaffolds/Platform for inspection & non-availability of calibrated MMDs –	1000 per incident.

9.56 GUIDELINES FOR WELDING, NDE AND HEAT TREATMENT

9.56.1 RECEIPT INSPECTION OF WELDING ELECTRODES / FILLER WIRES

1. All electrodes / filler wires received at site stores shall be segregated for type and size of electrode.
2. Ensure that electrode packets received are free from physical damage.
3. Where electrodes are damaged, the same shall be removed from use.
4. Only electrodes identified in the "Rationalized List of Electrodes" are to be accepted.
5. Where filler metals are supplied by manufacturing unit, inspect for damages, if any.
6. Ensure availability of relevant test certificates. Refer tables of chemical compositions and mechanical properties for acceptance.
7. Endorse acceptance / rejection on the test certificate.

9.56.2 STORAGE & IDENTIFICATION OF WELDING ELECTRODES / FILLER WIRES

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Scope

- 1.1 This procedure is applicable for storage of welding electrodes / filler wires used at sites.
2. Procedure:
 - 2.1 Only materials accepted (based on receipt inspection) shall be taken into account for storage.
 - 2.2 Storage Facility:
 - 2.2.1 The storage facility shall be identified.
 - 2.2.2 Access shall be restricted to authorized personnel.
 - 2.2.3 The storage area shall be clean and dry.
 - 2.2.4 Steel racks may be used for storage.
 - 2.2.5 Avoid storing wood inside the storage room.
 - 2.2.6 Maintain the temperature of the storage facility above the ambient temperature.
 - 2.2.7 This can be achieved by the use of appropriate heating arrangement .
 - 2.3 The electrodes / filler wire shall be segregated and identified for
 1. Type of electrode e.g. E7018.
 2. Size of electrode e.g. Dia 3.15 mm.
 - 2.4 Colour coding for filler wires:
 - 2.4.1 On receipt of GTAW filler wires, codify the filter wires as per table I below . Both ends shall be coloured.

Table - 1

Specification	Brand Name*	Colour Code
RT 1/ 2 Mo (ER80s-D2)	TGSM	Green
RT 1 Cr 1 / 2 Mo (ER80S-B2)	TGS 1CM	Silver grey/White
RT 2 1/ 4 Cr 1 Mo (ER90S-B3)	TGS 2CM	Brown / Red
RT 347 (ER 347	TGS – 347	Blue

(* or other approved equivalents)

- 2.4.2 Where another set of colour code is followed, maintain a record of coding used
- 2.4.3 Where the filter wire is cut, apply the appropriate colour code at both ends of the piece.
- 2.4.4 For other filler wires, a suitable colour distinct from table 1 shall be applied

9.57 BAKING AND HOLDING OF WELDING ELECTRODES

- 9.57.1 Purpose:
 - 9.57.1.1 This section details activities regarding baking and holding of welding electrodes used at sites.
- 9.57.2 Procedure:

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- 9.57.2.1 While handling, avoid contact of oil, grease with electrodes. Do not use oily or wet gloves.
- 9.57.2.2 It is recommended that not more than two days requirements are baked.
- 9.57.2.3 GTAW Filler Wires:
- 9.57.2.3.1 These wires do not require any baking
- 9.57.2.4 Covered Electrodes:
- 9.57.2.4.1 Baking and holding
- 9.57.2.4.2 Identify baking oven and holding oven.
- 9.57.2.4.3 They shall have a temperature control facility upto 3500C for baking oven and 200 Deg. C for holding oven.
- 9.57.2.4.4 A calibrated thermometer shall be provided for monitoring temperature.
- 9.57.2.4.5 On opening a packet of electrodes, segregate and place them in the baking oven. Avoid mix up.
- 9.57.2.4.6 After loading, raise the baking oven temperature to the desired range as per Table below.
- 9.57.2.4.7 Note the time when the temperature reaches the desired range. Maintain this temperature for the duration required as per Table below.
- 9.57.2.4.8 On completion of baking, transfer the electrodes to holding oven, maintain a minimum temperature of 1000C till issue.
- 9.57.2.4.9 The electrode shall not be subjected to more than two cycles of baking. Maintain a register containing following details:
- Brand name (e.g. Supratherme)
 - Size (e.g Dia 4.0 mm)
 - Quantity (e.g. 110 pieces)
 - Time at required temperature ie. Above 2500C
 - Time of Transfer to holding oven. Activities a, b, c to be recorded before loading into the oven.

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Baking and Holding Parameters

AWS Classification (*)	Baking		Holding Temperature °C (@)
	Temperature °C	Time (Hours)	
E7018	250 – 300	2	100 min
E7018-1	250 – 300	2	100 min
E7018-A1	250 – 300	2	100 min
E8018-B2	250 – 300	2	100 min
E9018-B3	250 – 300	2	100 min
E8018-B2L	250 – 300	2	100 min
E9018-B3L	250 – 300	2	100 min
E309 & E347	250 - 300	1	100 min

Note : (*) For other electrodes, supplier's recommendations shall be followed.

(@) Maintain the temperature in the oven till issue.

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Chapter-X HYDRAULIC TEST

**The scope of the work will comprise of but not limited to the following:
(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)**

- 10.1 The pressure testing for SH & RH circuit shall be carried out as per IBR / Customer / customers' consultant specification / BHEL. Customers' consultant specification forms the part of this tender specification.
- 10.2 The contractor shall make all necessary arrangements including making of temporary closures on piping / equipment for carrying out the hydro-static testing on all piping, equipment covered in the specification at no extra cost.
- 10.3 Soundness of the welds shall be tested hydraulically under the supervision of the BHEL Engineer and Customer, to the pressure indicated in the drawing. Prior to the test, the boiler / piping system shall be inspected by the BHEL Engineer to the extent necessary to ensure compliance with clearance for the test, which will be obtained by the contractor from the Engineer.
- 10.4 Hydraulic testing, as required shall be carried out by the contractor. The servicing, installation, electrical connection, erection, testing and dismantling of Hydraulic Test pump, temporary pipelines, fittings, etc. shall be carried out by the contractor as part of this work.
- 10.5 All the hydraulic tests shall be repeated till all the pipelines / boiler to satisfy the requirements / obligation of BHEL to their customer. As far as the hydraulic pressure test is concerned, the same shall be conducted at various stages to the satisfaction of IBR inspectorate / BHEL / Customer Engineers. Any rectifications required shall have to be done / redone by the contractor at his cost. The contractor shall carry out all the required tests and pre-commissioning and commissioning activities required for successful and reliable operation.
- 10.6 Test records shall be made for pressure testing of above piping system. These records shall contain the following information:
 - a) Date of test
 - b) Identification of piping tested
 - c) Test fluid
 - d) Test pressure
 - e) Approval of the Engineer.
- 10.7 Contractor shall lay all necessary electric cables and switches etc. required for the hydraulic tests and other tests, flushing etc., and maintain the system till the tests are completed satisfactorily.
- 10.8 Contractor at his cost shall lay all necessary temporary piping, install the pumps, blanks, valves required for the test, pressure gauges etc. Required pipes, valves, plates etc., will be given by BHEL. Temporary piping, pumps, valves, flanges, blanks etc shall be removed by him and returned to BHEL. All thermo well points are to be seal welded, with plug in

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Chapter-X HYDRAULIC TEST

position. All Temperature Element points are to be provided with blanks and welded. Necessary blanks will be provided by BHEL.

- 10.9 Welding and stress relieving of temporary blanks or suitably fixing temporary blank flanges with gaskets and fasteners and welding and providing suitable de-aeration / venting / draining points with valves as per BHEL Engineer's instructions, for performing hydro-test of piping and other equipments is within the scope of work. Gaskets, valves, fasteners will be provided free of cost by BHEL. Contractor shall cut steel blanks from steel provided without charging extra. After completion of hydraulic test, welded blanks shall be cut and removed and weld burrs ground finished and cavities/scars of cutting weld filled and ground as per BHEL Engineer's instructions.
- 10.10 The contractor shall make all necessary arrangements including making of temporary closures / dummy on piping / equipment for carrying out the hydro-static testing on all piping, equipment covered in the specification at no extra cost. Necessary blanks will be provided by BHEL.
- 10.11 During hydraulic test, the pipes being tested shall be isolated from the equipments to which they are connected.
- 10.12 Openings on piping for pressure / temperature impulse connections shall be fully closed during the test to prevent dust or foreign matter entering into the instrument piping inadvertently.
- 10.13 The following specifications shall also be completed with during hydrostatic test.
- a. Vent nozzles with valves shall be provided at the highest point of the runs, to eliminate air pockets. At the lowest point drain nozzles, with valves shall be provided to drain water from pipes. The nozzles and valves shall be of the same materials as the pipe.
 - b. The lowest part of the pipe shall always be filled first with water.
 - c. Pressure shall be slowly increased (without shocks) to the stipulated value and maintained as long as required to visually check all joints.
 - d. Following the control specified above the pressure shall be slowly decreased to the design pressure after which the pipe shall be subjected to the peening test, applying knocks every 150 mm approx. especially in the welded joint areas, with a 0.5 – 1.5 kg. Hammer (depending on the pipe wall thickness). The hammer used shall be a round headed one.
 - e. Following the peening test, the pressure shall be increased to the stipulated value and all welded joints shall be visually inspected.
 - f. Following these test, the pipe shall be drained or pumped out to the other section to be hydro test using the drain out pump to be provided by Contractor and wherever necessary shall be flushed with air for all pipes.
 - g. The pressure test is considered satisfactory if no cracks, unjustified pressure reductions, leakages, seepages etc., appear.

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Chapter-X HYDRAULIC TEST

- h. Should defects be found, these shall be repaired in the same manner as these during radiographic examination. Hydraulic test shall be repeated after defects have been repaired.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
CHAPTER-XI: ESTIMATED WEIGHT FOR VARIOUS SYSTEMS IN SCOPE OF WORK (BOQ)

11.1 BILL OF QUANTITY/WEIGHT SHCEDULE-Package-A (Unit#1)

11.1.1 BILL OF QUANTITY/WEIGHT SHCEDULE- Pkg-A.1

Sl.No	Description of Coil Assembly	Material Specification of Tube 1 & 2	Dia	Thi ck	No of Tube s	No of Butt Joints		No of Fillet Joints
						Top	Botto m	
1	Superheater Platen Front Coil Assy-Front/Inlet	SA213S30432	50.8	8.64	35	35	35	35
2	Superheater Platen Front Coil Assy-Rear/Outlet	SA213S30432	50.8	8.64	35	35	35	35
3	Superheater Platen Rear Coil Assy-Front/Inlet	SA213TP347H	51	8.8	35	35	35	35
4	Superheater Platen Rear Coil Assy-Rear/Outlet	SA213TP347H	51	8.8	35	35	35	35
5	Superheater Finish Front Coil Assy-Front /Inlet	SA213TP347H	44.45	7.62	107	107	107	107
6	Superheater Finish Front Coil Assy-Rear /Outlet	SA213S30432	44.45	7.11	107	107	107	107
7	Superheater Finish Rear Coil Assy-Front /Inlet	SA213S30432	44.45	8.64	107	107	107	107
8	Superheater Finish Rear Coil Assy-Rear/Outlet	SA213S30432	44.45	8.13	107	107	107	107
9	Finish Reheater Coil Assy-Front/Inlet	SA213TP347H	76.2	5.08	53	53	53	53
10	Finish Reheater Coil Assy-Rear/Outlet	SA213S30432	76.2	5.08	53	53	53	53
						674	674	674
Total						1348		674
Grand Total							2022	

Note- The material specification & size of roof seal band plate (SA387Gr22 or Gr91 Plate, Fresh spool tubes shall be clearly specified in repair procedure of BHEL Trichy.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
CHAPTER-XI: ESTIMATED WEIGHT FOR VARIOUS SYSTEMS IN SCOPE OF WORK (BOQ)

11.1.2 BILL OF QUANTITY/WEIGHT SHCEDULE- Pkg-A.2

Structural BOQ/Unit (KG)	
DESC	Wt (Kg)
ISMB-300	1,639
ISMB-400	812
PL.16	17,544
PL. 25	2,175
PL. 32	119
PL.12	9,220
PL. 20	1,269
ISA 150X150X16	2,585
ISA 200X200X16	4,156
PIPE DIA 219	2,708
PIPE DIA 168	11,504
PL. 10	449
C-250	11,533
Total	65,713

TECHNICAL CONDITIONS OF CONTRACT (TCC)
CHAPTER-XI: ESTIMATED WEIGHT FOR VARIOUS SYSTEMS IN SCOPE OF WORK (BOQ)

11.2 BILL OF QUANTITY/WEIGHT SHCEDULE-Package-B (Unit#2)

11.2.1 BILL OF QUANTITY/WEIGHT SHCEDULE- Pkg-B.1

Sl.No	Description of Coil Assembly	Material Specification of Tube 1 & 2	Dia	Thi ck	No of Tube s	No of Butt Joints		No of Fillet Joints
						Top	Botto m	
1	Superheater Platen Front Coil Assy-Front/Inlet	SA213S30432	50.8	8.64	35	35	35	35
2	Superheater Platen Front Coil Assy-Rear/Outlet	SA213S30432	50.8	8.64	35	35	35	35
3	Superheater Platen Rear Coil Assy-Front/Inlet	SA213TP347H	51	8.8	35	35	35	35
4	Superheater Platen Rear Coil Assy-Rear/Outlet	SA213TP347H	51	8.8	35	35	35	35
5	Superheater Finish Front Coil Assy-Front /Inlet	SA213TP347H	44.45	7.62	107	107	107	107
6	Superheater Finish Front Coil Assy-Rear /Outlet	SA213S30432	44.45	7.11	107	107	107	107
7	Superheater Finish Rear Coil Assy-Front /Inlet	SA213S30432	44.45	8.64	107	107	107	107
8	Superheater Finish Rear Coil Assy-Rear/Outlet	SA213S30432	44.45	8.13	107	107	107	107
9	Finish Reheater Coil Assy-Front/Inlet	SA213TP347H	76.2	5.08	53	53	53	53
10	Finish Reheater Coil Assy-Rear/Outlet	SA213S30432	76.2	5.08	53	53	53	53
						674	674	674
Total						1348		674
Grand Total							2022	

Note- The material specification & size of roof seal band plate (SA387Gr22 or Gr91 Plate, Fresh spool tubes shall be clearly specified in repair procedure of BHEL Trichy.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
CHAPTER-XI: ESTIMATED WEIGHT FOR VARIOUS SYSTEMS IN SCOPE OF WORK (BOQ)

11.2.2 BILL OF QUANTITY/WEIGHT SHCEDULE- Pkg-B.2

Structural BOQ/Unit (KG)	
DESC	Wt (Kg)
ISMB-300	1,639
ISMB-400	812
PL.16	17,544
PL. 25	2,175
PL. 32	119
PL.12	9,220
PL. 20	1,269
ISA 150X150X16	2,585
ISA 200X200X16	4,156
PIPE DIA 219	2,708
PIPE DIA 168	11,504
PL. 10	449
C-250	11,533
Total	65,713

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-XII : Bill of Quantities and % Weightage of Individual Items

Quantity for each unit

SN	Contract (Main Package)	Rate schedule Identifier	QTY for each Package	UOM	Weightage/ Factor "X"
Sh & RH coils rectifications					
1.	Hiring of Scaffolding Pipes	1.1	674.00	Nos	0.016666726001
2.	Fixing of Scaffolding Pipes	1.2	674.00	Nos	0.106516154236
3.	1. Mechanical works (Cutting grinding etc)	1.3	674.00	Nos	0.518794713869
4.	Pre heat/PWHT	1.4	674.00	Nos	0.165364100362
5.	NDT (RT/NDT)	1.5	674.00	Nos	0.045713468640
Eco hopper strengthening					
1	Dismantling of existing structures	2.1	30	MT	0.062027673320
2	Erection of the structural members	2.2	65.713	MT	0.084917177018

Instructions to the Bidders

- Bidders shall quote Total Lump-sum Price for the entire scope of work at the place implanted in the E-Procurement Portal titled as " Vol-II Price Bid" for Package-A(Unit#1 Only) .** Price mentioned elsewhere in the offer of the bidder shall be treated as Null and Void.
- BHEL has fixed the weightages of individual items of Schedule of Quantity w.r.t. the total price of Price Bid Vol-II.
- Based on the pre-fixed weightages, amount of individual items shall be derived by BHEL. This amount shall not be rounded off.
- Based on the quantities of individual item and the amount arrived in Sl No 3 above, item rate of individual items shall be derived by BHEL. This item rate shall be rounded off up to two decimal places and shall be used to calculate the total amount of an item.
- For the convenience of bidders, BHEL has issued an excel sheet with all requisite formulae as detailed above. **However this excel sheet shall not form part of contract document. Further, this sheet should not be uploaded at the e-Portal.**
- Bidders to note that this is an '**Item rate contract**'. Payment shall be made for the actual quantities of work executed at the Unit rate arrived at as per serial no 4 above.