

TENDER SPECIFICATION

SI No	Tender Specification Number	Unit Number & Project
1	BHE/PW/PUR/UKT BLROH U#5/1376	Unit No.5: Work for Chemical Cleaning of 210MW Boiler at Ukai Thermal Power station.

FOR

SUB: Work for Chemical Cleaning of 210MW Boiler Unit No.5 at Ukai Thermal Power station.

VOLUME - I

CONSISTING 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



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

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Tender Specification Issue Details

TENDER SPECIFICATION

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FOR

SUB: Work for Chemical Cleaning of 210MW Boiler Unit No.5 at Ukai Thermal Power station.

At

UKAI

GUJARAT

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)

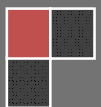
Place: Nagpur

Date :

1376

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



Ref:

T.S.No BHE/PW/PUR/UKT BLROH U#5/1376

Date: 22.12.2014

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

To

Dear Sir/Madam

Sub : NOTICE INVITING TENDER

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

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION	
i	TENDER NUMBER	BHE/PW/PUR/UKT BLROH U#5/1376	
ii	Broad Scope of job	Unit No.5 : Work for Chemical Cleaning of 210MW Boiler at Ukai Thermal Power station.	
iii	DETAILS OF TENDER DOCUMENT		
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i>	Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i>	Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i>	Applicable
d	Volume-ID	<i>Forms and Procedures</i>	
e	Volume-II	<i>Price Schedule (Absolute value).</i>	Applicable
iv	Issue of Tender Documents	<p>1. <u>Sale from BHEL PS Regional office at Nagpur</u> : Start : 22/12/2014. Closes: 05/01/2015 , Time : 15: 00Hrs</p> <p>2. From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission</p>	Applicable/ Not applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	<p>Date : 06/01/2015 , Time : 15:00 Hrs Place : <u>BHEL PS Regional office at :Nagpur</u></p> <p>Tenders being submitted through representative</p>	Applicable

		shall be submitted at dispatch section of PSWR HQ Office after making entry/registration at the reception. For any assistance on the matter kindly contact following officials: Amit Kumar Shrivastava / Manager(Purchase) Nirmal P G /Asst. Engineer(Purchase)	
vi	OPENING OF TENDER	1 hours after the latest due date and time of Offer submission 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	Applicable
vii	EMD AMOUNT	Rs 1,00,000/- (Rupees One Lakh Only)	Applicable
viii	COST OF TENDER	Rs 2000/- (Rupees Two Thousand Only)	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Atleast 1 week before the due date of offer submission Along with soft version also, addressing to undersigned & to others as per contact address given below Amit Kumar Shrivastava (Manager)- E-mail- amitks@bhelpswr.co.in PH: 0712-3048651 Nirmal P.G (Asst. Engineer)- E-Mail- nirmalpg@bhelpswr.co.in Ph: 0712-3048713	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	Date :	Applicable/Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Applicable/Not Applicable
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 Corrigendums) 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 & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**

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

Sl no	Description	Remarks
	Part-I A	
	<p><u>ENVELOPE – I superscribed as :</u> PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p><u>CONTAINING THE FOLLOWING:-</u></p>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	<p>Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.</p> <p><u>Note:</u></p> <p>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.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p>i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	

iii.	Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria. It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	
PART-I B		
	ENVELOPE – II superscribed as: PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:-	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender OR Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender 2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	
PART-II		
PRICE BID consisting of the following shall be enclosed		
	ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	
OUTER COVER		

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

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

- 7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
- 9.0 **BHEL reserve the right to reject a bidder based on their unsatisfactory past performance at any other project.**
- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 ~~BHEL may decide holding of pre bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre bid discussion (PBD) shall also form part of tender.~~
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.

- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall be deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of **Reverse Auction process**. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction.
- However, if **reverse auction process** is unsuccessful as defined in the **RA rules/procedures**, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 24.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 25.0 Order of Precedence
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
 - b. Notice Inviting Tender (NIT)
 - c. Price Bid

- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD

AGM/Purchase

Enclosure

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

ANNEXURE - 1

PRE QUALIFYING REQUIREMENTS

JOB	SUB: Work for Chemical Cleaning of 210MW Boiler Unit No.5 at Ukai Thermal Power station.
TENDER NO	BHE/PW/PUR/UKT BLROH U#5/1376

SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. Bidder must fill up this column as per applicability
A	Submission of Integrity Pact duly signed (if applicable)	NOT APPLICABLE	
B	<p>Bidder must have executed following works (i.e. Bidder must meet (B.1.1 or B.1.2 or B.1.3)) in the last seven (7) years as on latest date of bid submission:-</p> <p>B.1.1) Executed atleast One Chemical Cleaning/EDTA activity of Boiler in Power Plant of 190MW or above of value not less than Rs.32.5 Lakhs against single work order.</p> <p>OR</p> <p>B.1.2) Executed atleast Two jobs of Chemical Cleaning/EDTA activity of Boiler in Power Plant of 190MW or above each of value not less than Rs.20.5 Lakhs.</p> <p>OR</p> <p>B.1.3) Executed atleast Three jobs of Chemical Cleaning/EDTA activity of Boiler in Power Plant of 190MW or above each of value not less than Rs.16.5 Lakhs.</p>	APPLICABLE	
C-1	<p><u>FINANCIAL TURNOVER</u></p> <p>Bidders must have achieved an average annual financial turnover (Audited) of Rs.12.2 Lakhs or more over last three Financial Years (FY) i.e. 2011-2012, 2012-2013, 2013-2014.</p>	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 cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.	APPLICABLE	
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)	NOT APPLICABLE	By BHEL
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	BY BHEL
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E	APPLICABLE	BY BHEL
G	Consortium criteria	NOT APPLICABLE	
<p><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></p> <ol style="list-style-type: none"> 1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures 2. In case audited Financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three. 3. C-2:-NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies) 4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above 5. 'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, Electrical, CI, Chemical Cleaning unless otherwise specified :- <ol style="list-style-type: none"> 1. _____ Bidder should have executed similar work of any one of the following:- <ol style="list-style-type: none"> a. _____ One (1) work of value not less than Rs 40 Lacs <li style="text-align: center;">_____ OR b. _____ Two (2) works of not less than Rs 90 Lacs <li style="text-align: center;">_____ OR c. _____ Three (3) works of not less than Rs 120 Lacs <p>(Value a, b, c shall be as indicated by BHEL.</p> 2. _____ 'Similar' work for criteria 5 above means <ol style="list-style-type: none"> a. _____ Civil or Structures or Civil & Structures or Chimney respectively as applicable to the tendered scope in respect of 'CIVIL' Works b. _____ Electrical works in respect of 'ELECTRICAL' c. _____ CI works in respect of 'CI' Works d. _____ Material Handling and/or Management works in respect of 'MM' works 			

6. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission
7. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed
8. Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means:
 1. "BOILER LIGHT UP" in respect of Boiler & Aux and ESP
 2. "SYNCHRONISATION" in respect of Boiler Lit Up.
 3. ~~"STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping.~~
 4. "HYDRAULIC/Pneumatic TEST" of the system in respect of Structures, Pressure parts/IBR Piping.
 5. "CHARGING" in respect of power Transformers, Bus ducts, HT/LT switchgears
 6. ~~"Completion of RCC Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form" in case of RCC Chimney.~~
 7. ~~Achievement of physical Quantities as per respective PQRs in respect of Civil & Structures and Piling Works~~
 8. ~~"Readiness for coal Filling" in respect of Bunker Structure Work.~~
9. Boiler means CFBC/COAL FIRING BOILER. ~~any other types of Steam Generator.~~
10. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.
11. ~~In case the experience/POAWO certificate enclosed by bidders do not have separate break up prices for the E&C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical & CI and other works if any), then value of Erection and Commissioning for the Electrical & CI portion shall be considered as 15% of the supply & erection of Electrical & CI, unless otherwise specifically indicated in the PQR.~~
12. ~~Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.~~
13. ~~In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR.~~
14. **The value of work (Experience submitted against PQR B) shall be updated as per the PVC indices for "All India Avg. Consumer Price Index for Industrial Workers" with base month as date of execution (completion of contract/work) and indexed upto two months prior to bid opening month.**

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.

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	YES/NO
8	Copy of PAN Card	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable	YES/NO
10	Integrity Pact	Not Applicable	YES/NO

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

AUTHORISED
(With Name, Designation and Company seal)

ANNEXURE 4: **IMPORTANT INFORMATION**

1. **The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site (www.bhel.com ----> Tender Notification -> List of Banned Firms)**
2. **All Statutory Requirements as applicable for this project shall be complied with.**
3. **Please take note of following Revised Tender Clauses:**
 - i. Notice Inviting Tender: SI No 9
 - ii. General conditions of Contract: Clause No 1.15.13 (New), Clause No 2.8.3, 2.8.4 and 2.8.5

4. Broad Terms & Conditions of Reverse Auction

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

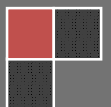
- 4.1. Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).
- 4.2. BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids. In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- 4.3. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- 4.4. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-submission of 'online sealed bid' by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.

- 4.5. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- 4.6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- 4.7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- 4.8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- 4.9. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for noncompliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- 4.10. Reverse auction will be conducted on scheduled date & time.
- 4.11. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- 4.12. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- 4.13. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL"s standard practice.
- 4.14. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
- 4.15. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
- 4.16. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- 4.17. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS
LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

1.0.0. PROJECT INFORMARTION

Project Information

1. Purchaser M/s Gujarat State Electricity Corporation Limited
2. Project Title **Work for Chemical Cleaning of 210MW Boiler Unit No.5 at Ukai Thermal Power station.**

Location & Approach

3. Nearest Railway Station Vyara
4. Nearest airport Surat

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

2.0.0. **SCOPE OF WORK:-**

ANNEXURE – I

TECHNICAL SPECIFICATIONS

2.1.1. Introduction:

The following will constitute brief Technical specifications in connection with chemical cleaning of 210 MW boiler units # 5 at UTPS during AOH work. The aim of Chemical Cleaning is to remove mill scale, oil, paint, preservatives, rust, welding slag's that would have entered during the assembly of new tubes and also to remove the of iron oxides and silica from the existing tubes. After carrying out the process, the internal surfaces of the tubes are passivated by means of protective layer to prevent further rusting and corrosion.

The cleaning circuit consists of the following equipments of the boiler.

Economizer

Steam Drum

Water Wall/Riser tubes

Down Comer/ Bottom Header.

Super heater is not to be chemically cleaned. Instead, it is filled up with Ammoniated Hydrazine and kept under pressure during operation at around 5 kg/cm².

2.2.1. Description:

1. Hot Alkali flushing will be carried out prior to acid cleaning.
2. Temporary chemical cleaning system will be made readily available.
3. The whole process will be carried out using blending tank, circulating pumps, piping and valves which form a temporary circuit with the main boiler.
4. The common header of circulating pumps will be connected to the Economizer inlet feed at control station. Due care and precaution shall be taken to prevent ingress of any acid in to the Boiler feed lines, if necessary, using plugs.
5. All the drum internals will be removed before chemical cleaning and reinstalled after completion of First Stage Passivation.
6. Super heater section will be isolated with specially designed plugs.
7. Down comers are suitably fitted with orifice plate to improve more flow (velocity) through water wall steam generation tubes.
8. The hand hole plates of the lower ring header will be removed and necessary piping of temporary circuit will be welded. After completion of the cleaning process, piping will be cut and hand hole plates are reinstalled.
9. A separate line connecting all the drains from the dissolving tank, main boiler and all other pipelines will be laid and led to a separate neutralization pit where neutralization

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

of effluents after each process will be carried. Drain line to drain pit upto 250 mtrs is in yours scope if the drain pit is beyond 250m, the extended length of pipe will be provided by customer however laying will be carried out by contractor.

10. Necessary safety precautions will be taken during cleaning process to Prevent any sort of injury to the operating personnel.
11. All instrumentation lines will be either plugged or removed temporarily during cleaning by the customer to prevent entry of acid.
12. Chemical analysis will be carried out during process for the required test results.
13. Detailed process report will be prepared and submitted after completion of the process.

2.3.1. DETAILED PROCEDURE FOR BOILER CHEMICAL CLEANING

2.3.2. SUPER HEATER BACK FILLING:-

The Super Heater is back flushed with DM Water using Super Heater Back filling line. It is further filled up to overflow with DM water containing Hydrazine to the concentration of 200 ppm and pH maintaining above 9.5 by the addition of Ammonia. It is finally plugged with special type of plugs and tested hydraulically at 5 Kg/Sq.Cm. by using the circulating pumps. After keeping the water wall tube sample, the drum manhole is closed.

2.3.3. COLD WATER AND HOT WATER FLUSHING:-

The temporary circuit consisting of blending tank, circulating pumps, valves and piping is fabricated as per the drawing. The complete circuit is tested for any leakage. DM Water is filled up and the system is flushed till turbidity comes down to 5 ppm. Further to this flushing, steam is admitted bin the entire circuit and the temperature raised up to 700 C and flushing is continued. This flushing is carried out for several hours to achieve stability of the complete circuit and also ensure clear water in all branches of the circuits.

2.3.4. HOT ALKALINE CLEANING (DEGREASING)

Fill up the system, establish circulation and raise the temperature of the system to 70-75oC. The process chemical may be added in the following concentration in the mixing tank. (The quantity of chemicals is worked out based on system volume to be cleaned).

Tri sodium Phosphate - : 0.5%

Sodium Hydroxide - : 0.3%

Wetting Agent - : 0.05%

Chemicals must be mixed little by little observing the foaming in the mixing tank. After adding the chemicals, raise the temperature of the solution to 70-75 degree C, which is to be maintained throughout the process. Keep the circulation 6 -8hrs. The samples are taken out from inlet and outlet at regular intervals. The same samples are analyzed for alkalinity and pH value. After getting the steady values at inlet and outlet, then drain the complete system.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

2.3.5. DM WATER RINSING:

Fill up the system with DM water and establish circulation in the system. Rinse the system by continuous filling and draining method. The rinsing is continued till the pH shall be checked I/L and O/L shall be same. The flushing is terminated once the water is clear and free from alkaline solution for visual appearance.

2.3.6. COPPER REMOVAL STEP:

The system is filled up with 0.5 % Citric Acid by weight, 0.5 % Sodium Nitrite, 0.5% Ammonium Carbonate and Ammonia to raise the pH to 9.5 to 10 and circulated for 4 – 6 hours at 500 C till the copper content in the solution is constant. The solution shall be drained. The system flushed with till achieving normal pH.

2.3.7. INHIBITED ACID PICKLING

After DM water rinse, the system is filled up with DM water and circulated and its temperature increased to 700 C. Once the steady conditions are achieved throughout the system, Inhibitor Coronil 213 Special (0.2%) is added followed by gradual addition of Hydrochloric Acid up to 5% along with 0.25 % of Ammonium Bi fluoride and 0.5 % Thio urea. Circulation is continued for several hours during which time testing for total iron, strength of Acid in the inlet and outlet sampling points is carried out at regular intervals. Circulation is continued until the steady value of Iron reached. At this juncture the whole solution is drained from the system completely under Nitrogen capping. The drained acid solution is neutralized using lime and then discharged to the drains.

2.3.8. DM WATER RINSE:-

The Boiler is filled up with DM water and circulation established. When uniform concentration of Acid and Iron are attained in the system as indicated by analysis, it is drained under Nitrogen blanketing. The pH of the circulating solution should not be allowed to go beyond 4.0 in order to prevent the precipitation of Iron hydroxide, which may settle down on the cleaned Boiler surfaces.

2.3.9. CITRIC ACID RINSE:

In this process, Citric Acid is charged into the system to obtain the concentration of 0.2% and the pH maintained between 3.5 and 4 by the addition of Ammonia. The temperature shall be maintained during this process at 600 C. The circulation is maintained for one hour after obtaining uniform concentration and then it is totally drained. The advantage of this Citric Acid Rinse is to remove effectively the residual dissolved Iron from the system.

2.3.10. DM WATER RINSE:

The system is once again filled up with DM water, circulated for one hour and then drained under Nitrogen blanket. During this rinsing time samples are checked for pH and Iron. The rinsing operation is continued till the Iron value drops below 25 ppm and pH nearer to that of DM Water.

2.3.11. NEUTRALISATION:-

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Chapter – II: SCOPE OF WORKS

DM Water is filled in the system and the temperature increased to 800 C and then Sodium Carbonate is charged into the dissolving tank to obtain a concentration of 0.5%. All Instrumentation tapping are flushed and venting of the system carried out several times. Finally the entire system is drained under atmospheric pressure.

2.3.12. PASSIVATION:

The aim of Passivation is to prevent corrosion since cleaned surfaces are more susceptible to corrosion and it is carried out in two stages.

a. FIRST STAGE PASSIVATION

The system is now filled up with DM water and the temperature is raised to 850 C. To this enough quantity of Hydrazine Hydrate is added to achieve a concentration of 200 ppm and Ammonia is added simultaneously to ensure pH of 9.5-10. This is circulated for 20 hours during which time pH and Hydrazine concentration are regularly tested. After a period of 20 hours, the system is totally drained and left for aeration by natural draft. The drained solution is neutralized using Bleaching Powder.

b. INSPECTION:

The drum is opened and inspected for uniform layer of protective magnetite coating. All loose debris in the Steam Drum is cleaned manually. Remove all the temporary piping and restore the boiler for second stage passivation

REQUIRED CHEMICALS (APPROX QUANTITY)

S. No.	Particular of Chemicals	Quantity
1	Sodium Hydroxide	600 Kg
2	Trisodium phosphate	1000 Kg
3	Wetting Agent	90 Kg
4	Hydrochloric Acid (30%)	35 Ton
5	Inhibitor Coronil 213 SPL	550 Kg
6	Ammonium Bifluoride	1000 Kg
7	Thiourea	1000 Kg
8	Citric Acid	1500 kg
9	Hydrazine Hydrate (80% conc.)	400 Ltrs
10	Liquor Ammonia	5000 kg
11	Nitrogen (7cu.m / cylinder	200 Nos
12	Bleaching Powder	500 Kg

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13	Sodium Carbonate	2000 Kg
14	Hydrated Lime	5000 Kg
15	Caustic lye (50%)	30 MT
16	Sodium Nitrite	1000 Kg
17	Ammonium Carbonate	1000 Kg

CONDITION OF BOILER (as per RLA year - 2013)

Sr. No.	Parameter	Water wall platen deposit (panel 4, Tube 7)	Drum Deposit
1	Silica (SiO ₂)	0.6	3.3
2	Iron Oxide (Fe ₃ O ₄)	79.7	66.5
3	Copper (Cu).	13.6	26.2
4	Calcium Oxide (CaO)	2.1	1.7
5	Magnesium Oxide (MgO)	2.7	0.4
6	Sodium Oxide (Na ₂ O)	0.1	0.1
7	Phosphate (P ₂ O ₅)	0.7	0.9
8	Gain on Ignition at 600° C	6.5	6.1

DEPOSIT QUANTITY (Mg/cm²)

Sr. No.	Area of Boiler	Deposit in (Mg/cm ²)
1	Front water wall (Tube No. 84)	25.8
2	Rear water wall (Tube No. 73)	24.2
3	LHS water wall (Tube no.50)	19.9
4	RHS water wall (Tube No. 53)	18.2
5	S-panel Front (Tube No. 171)	17.8
6	S-Panel Rear (Tube No. 7)	17.4
7	Water wall platen-Panel-1 Horizontal tube)	66.6
8	Water wall Platen – Panel 4-Tube 07-Bend.	92.9

Note: above results are based upon RLA report of 2013 however present condition of deposit may be differ. The quantity of chemicals does not restrict with the above result. If required party will have to arrange additional chemical without extra cost to complete the activity in all respect.

ANNEXURE – II

2.4.0. SCOPE OF WORK OF CONTRACTOR:-

- (1) Contractor has to arrange for necessary quantity of chemicals with specified purity for chemical cleaning. The Chemical will be inspected & tested by UTPS in chemical lab along with your chemist and on approval of same chemical can be used.
- (2) Contractor has to carryout pre post operational two stage chemical cleaning.

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Chapter – II: SCOPE OF WORKS

- (3) Alkali boil out will be carried out prior to chemical cleaning.
- (4) Temporary chemical cleaning system with neutralization system and nitrogen filling system with pipes, bends, various size & diameter valves headers steam headers circulating pump Acid transfer pump, Acid storage tank, dissolved tank, Blending tank, High pressure gas regulating valve header assembly for connecting nitrogen cylinders etc. are to be arranged by contractor as per system requirement. The installed pumps, valves to be overhauled and put into circuit to avoid any passing leakages in system to avoid delay in commencement of activities.
- (5) The common header of circulating pumps will be connected to the Economizer inlet feed at control station. Due care and precaution shall be taken to prevent ingress of any acid in to the Boiler feed lines, if necessary using plugs.
- (6) Supply & erection necessary electrical equipment such as control panel, motor pump sets of circulating pump, acid transfer pump, starter & cables shall be arranged by the contractor.
- (7) All the drum internals should be removed before chemical cleaning and reinstalled after completion of first Stage Passivation.
- (8) Manual cleaning of loose debris and other impurities from the drum after its opening for inspection.
- (9) The complete water circuit is to be chemically cleaned. This includes Economizer, steam drum, Down comers, water wall including screen tube, water wall hanger, platen water wall, extended water wall Riser tubes & Bottom header.
- (10) Super heater circuits are too be isolated at the time of chemical cleaning operation. Contractor has to arrange for supply & installation of leak proof plugging.
- (11) Supply & installation of suitable orifice plate for down comers to improve more flow (velocity) through water wall steam generation tubes.
- (12) The hand hole plates to the lower ring header will be removed and necessary piping of temporary circuit will be welded. After completion of the cleaning process piping will be cut and hand hole plates are re installed.
- (13) A separate line connecting all the drains from the dissolving tank, main Boiler and all other pipelines should be laid and led to a separate neutralization pit where neutralization of effluents after each process will have to be carried out. Party will have to provide pipe lines of min. 250mtrs. If the pit beyond 250mtrs GSECL will provide extra length of drain pipe and contractor has lay that line within the same quoted price.
- (14) All instrumentation line plugs to be provided during chemical cleaning & same will be removed after completion of process taken contractor scope.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

- (15) For any necessary cutting & re-welding work on IBR components i.e. bottom header stubs & drain pipes, hand hole, orifice plates etc., HP welder shall be arranged by contractor. Any legal formalities to be completed for work are in contractor scope.
- (16) Chemical analysis should be carried out during process for the required test results and the purity of chemicals will be checked as per INDIAN STANDARDS in presence of our Chief Chemist UTPS.
- (17) Execution of chemical cleaning process including detail Engineering and monitoring the process with your laboratory up to Passivation & will be supervised by our chemist.
- (18) Detailed process and final report is to be prepared & submitted including the actual value of deposition quantity & copper percentage before & after chemical cleaning which shall be within specified range after chemical cleaning.
- (19) The Contract shall provide all the safety devices/ appliances to the staff and to adhere the safety regulations for handling chemical dumping process.
- (20) Mobilization of required no of trained and experienced staff of various categories for the execution of the work in smooth manner.
- (21) Crane for loading and unloading of material is in contractor's scope.
- (22) Contractor will have to execute activities not specified in the scope of work but required to be carried out for the completion of the process as per instruction.
- (23) Necessary approval from chief inspector of Boiler – Gujarat approval for IBR connections for chemical cleaning is to be arranged by the contractor.
- (24) Two nos. of sample coupons of length 12.5cm will be kept in Steam Drum and the blending tank before start of the process. Testing of (Copper percentage & deposit quantity) water wall tube 04 nos from each side of water wall furnace area before start of chemical cleaning and cutting & welding of 04 Nos water wall tube will be carried out by contractor and report is to be submitted to BHEL.
- (25) Necessary Fabrication & Erection (Including consumables) of temporary chemical cleaning circuit shall be arranged by the contractor.
- (26) All consumable items & tools tackles related to the work are in the scope of contractor.
- (27) **CLEANLINESS:** The contractor shall be responsible for cleaning their work area day to day. No separate payment will be paid for keeping the work area clean. Failure to which a penalty of @1% of the total value to work executed shall be levied if a contractor fails to keep the work cleaned after having three warnings issued by the engineer in charge in this regards.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

(28) Contractor has to engage one Chemist (expert) in consultation with SAS baroda.

(28) SAFETY CLAUSE:

1. The successful bidder has to take the following safety precautions.
2. During chemical cleaning all safety aspects will be adhered to in handling hazardous chemicals, safety appliances as deemed fit should be provided.
3. For uninterrupted chemical cleaning, provision of backup power supply.
4. Safety of all men and materials engaged in boiler chemical cleaning.
5. Contractor shall provide all the safety items required for the execution of work such as safety masks. Safety goggles, safety shoes, safety helmets etc. to his labor/ Personnel. Contractor shall also ensure that all his labor/ personnel wear the safety helmet at safety shoes while entering the plant gate, without which entry to the plant may be denied.
6. The contractor has to ensure that the labor deployed for the execution of the above work uses the safety appliances regularly and properly for their safety.
7. Surprise checks shall be done by manager (Safety) for checking the compliance of safety requirements, in case of non compliance of the above by the contractor, penalty may be imposed.
8. Contractors should have to make its own arrangement to utilize 24V supply for light purposes. And also cordoning of the Boiler chemical cleaning area during execution of work is required.

ANNEXURE-III

2.5.0. Facilities to be provided to contractor by BHEL/CUSTOMER:

2.5.1. SCOPE OF WORK OF CUSTOMER:-

1. Adequate closed room storage facilities for Chemicals to protect them from rain fall till the completion of the job.
2. Adequate power supply, service water, auxiliary steam and DM water will be provided by customer on free of cost. Power required for the job near to our MCC Panel– 250 KW /415 V
3. Providing Effluent disposal pit nearer to the boiler/Working area (Limit-250 meters) if pit is beyond 250m GSECL will provide extra Drain pipe & laying is in Contractor's scope.
4. Quarter for your staff during the period of work on rental basis if available.
5. Medical facilities will be provided on chargeable basis as per the norms of GSECL.

BHEL PSWR

Tender Specification No **BHE/PW/PUR/UKT BLROH U#5/1376**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

6. Structural material shall be provided on returnable basis if available.

2.6.0. Other Arrangements to be made by the contractor as under:-

1. General area lighting only will be provided by contractor. Local/spot lighting as required to be arranged by contractor as his own cost.
2. Compressed air supply will be made available at one point. All other arrangement and accessories to be arranged by contractor at his own cost like pipe valve etc.
3. Contractor has to make necessary arrangement of accommodation and for their staff at site. However customer may provide accommodation on chargeable basis.
4. Contractor has to make his own arrangement for transport of his own staff from residence to site and back. Similarly they have to arrange for transportation of material, tools etc. at site.
5. Required space near to the work spot will be provided for storing of materials and T&P but erection of temporary covering/shed as required /coordinating etc. is the responsibility of contractor only.
6. Contractor has to arrange watchmen in shift duty for security/safety of the equipment under overhaul and under their custody.
7. Contractor should arrange for periodical cleaning of work areas to keep them neat and clean.

2.7.0. Facilities to be provided by GSECL/BHEL on Chargeable Basis.

1. Workshop facility with operator will be free of cost if available with GSECL.
2. Structural materials required for temporary support on returnable basis to be transported from stores if available.
3. Water supply, Electrical power & service air will be given free of cost. You will be provided 415V, 3 ph. 50 c/s electric power connection near to the site and distribution shall be taken care of by you. You will have experienced qualified electrical person to look over it.
4. Accommodation in GSECL Town ship on chargeable basis if available.
5. Medical facilities to the extent available in GSECL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: SPECIAL TERMS & OTHER CONDITIONS

3.0.0. SPECIAL TERMS AND OTHER CONDITIONS

- (1) Special Terms & Conditions are as per BHEL GCC.
- (2) Contractor should arrange proper and adequate Insurance covers for all the employee deputed/deployed by him at the site for the work.
- (3) Contractor has to furnish establishment code numbers and deduct EPF as per rules and submit a proof of its remittance to BHEL.
- (4) Necessary Labour license should be obtained based on the Form-5 issued by the Principal Employer in your name. The copy should be submitted to BHEL site I/C. If labour licence is made on your name otherwise enquiry clause No. 12- (l) will be followed by you.
- (5) Wage payment to the employees should be witnessed by BHEL site I/C or his nominee and a copy of wage register duly certified are submitted to BHEL site I/C.
- (6) Proper records are required to be maintained by the contractor on the material drawn from the stores (Includes BHEL's supply as well as spares issued from GSECL UTPS).
- (7) Security and safety of the labour of the contractor to be ensured as per statutory requirements particularly use of PPE's such as helmets, safety shoes, safety belts, welding goggles, safety hand gloves etc must be ensured.
- (8) All the logistics and procedural formalities required to be done at the Power Station for mobilization and to be followed during the course of execution are to be taken care of by Contractor. You may visit the Site and ascertain the same before quoting priced offers.
- (9) After Light-up if any defect of workmanship noticed within one month shall be attended free of cost up to 60 days.

Note:

- For any further clarification you are requested to kindly contact the undersigned on any working day.
- SD clause as per GCC. TDS will be deducted as per statutory requirement

3.1.0. Statutory Obligations, Safety and Security:-

Contractor and all his personnel deployed on the work shall adhere to and abide by the safety provision/norms specified and as required by BHEL and their Customer. In case of violation of any provision is noticed at any time, a fine at the discretion of our Engineer-In- Charge or as levied by BHEL and/or their Customer shall be imposed for each of such violation and shall be recovered from the contractor's Running Account Bills or any other payments due. The contractor shall submit his safety plan to BHEL Site In charge. The contractor shall maintain and submit the following records for inspection anytime by BHEL/their Client/any statutory Authority.

- | | |
|------------------------------------|-----------------------------|
| a) Attendance Register of Workers. | h) Fine Register. |
| b) Pay/Wages Register. | i) Leave Register. |
| c) Advance Payment Register. | j) Provident Fund Register. |
| d) O.T. Register. | k) Bonus Register. |
| e) Identity Card Register. | l) Labour license. |
| f) Privilege Leave Register. | |
| g) Workers List Register | |

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: SPECIAL TERMS & OTHER CONDITIONS

Contractor shall arrange round the clock security and watch & ward for the safety and security of materials, items. Tools and Plants & Spares issued to him during execution of the work. He shall also maintain proper lock & key, arrangement for storing the items dismantled from Unit or issued to him by customer. In case of any loss and/or damage to any of the equipment / spares the contractor will be held responsible.

3.2.0. Unsatisfactory Progress of works:-

If your work is found not satisfactory or not progressing according to schedule given by the BHEL/GSECL . BHEL may take such action as may be deemed appropriate to see that work is completed in time at your risk and cost.

3.3.0. Performance Guarantee:-

Schedule-A The contractor shall guarantee against any defects attributable to faulty workmanship/ procedure adopted/ deterioration in performance of machine in the overhaul for items covered in the contract for a **period of 60 days** from the date of synchronisation of the machine. The guarantee should cover all the defects noticed during this period and shall have to be attended by the contractor free of cost immediately or at the time our clients are able to give shut down of the machine for the required period when necessary.

3.4.0 Contractor has to carry out without any charge to BHEL any activity/activities, which are not specially indicated in the scope but are essential for completing the works and to achieve a good standard of quality of work in to trial run and operation.

3.5.0 In case of defective workmanship or worsening of performance is noticed during trial run, rework arising due to the above shall be the liability of the contractor and no extra charges shall be paid by BHEL for such work at time convenient to the principal customer.

3.6.0 Any rework arising due to breaking of any part/hardware during the execution of work the above shall be the liability of the contractor and no extra charge shall be paid by BHEL for such work at time convenient to the principal customer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV: T&P AND MMEs TO BE DEPLOYED BY CONTRACTOR

4.0.0. T&P AND MMEs TO BE DEPLOYED BY CONTRACTOR

4.1.0. LIST OF TOOLS AND PLANTS TO BE ARRANGED BY CONTRACTOR

1. Welding Generator sets with regulator, cables, electrodes, holders and shields etc.
2. Pulley Blocks- Single Sheave, Multi Sheave.
3. Grinding Machines.
4. Chain pulley blocks- Assorted size – as required.
5. Sets of DE and Ring spanners (6-15mm). Measuring steel tapes (3-5 meters).
6. Spirit Level Precision spirit level (with micro head).
7. Sets of box spanners (6-20mm and 22-50mm).
8. D.P. test kit (with consumable).
9. Crowbars, tin cutters, pliers (cutting plier /nose plier circlip-outside and inside)
10. Lifting devices - Eye bolts, D-shackles, Slings of various sizes, guide roads etc.
11. Torch light/hand lamps with cables.
12. 230/24V Transformer with cable and 24V bulbs.
13. Safety helmets, Safety Belts and other appliances like gas cutting/welding goggles.
14. Tarpaulins.
15. Adequate number of Electrode Heating Oven also portable type.
16. Electrical Pannel for 3 pahse of 440V for Heavy duty Pumps.
17. Thermo Chalks.
18. Insulating coils for preheating/post heating. Stress Relieving is to be done if required.
19. Grinding machine NQ1/FF2.
20. Chamfering machine.
21. Tri square.
22. Vernier calipers (0 to 300 mm).
23. Allen keys of various sizes (from 2mm onwards).
24. Screw drivers and sledge hammers etc.
25. Adjustable wrenches, pipe winches and heck saws.
26. Files - flat round, half round and square rough and smooth (sizes 6" and 12")
27. Bench grinders, straight grinders (GQ4 & GQ6 angle grinders).
28. Steel wire brushes, wire brush wheels..
29. Hand gloves asbestos, manila rope, asbestos cloth, leather and rubber glows.
30. Set of needle files.
31. Electric drills.
32. Gas cutting and heating set with torches, regulators, hoses and cylinder(min. 6 sets).
33. Electric switch boards and flood light arrangements with fuse boxes and isolating switches, plugs and sockets.
34. In addition to above T&P contractor will be required to fabricate related to the scope of work.
35. A necessary scaffolding material has to arrange by contractor for platform near /for the work area.

Note: The above list is only indicative and not exhaustive. Arrangement for any other T&P required for the timely completion of the job shall be the responsibility of the contractor and shall be arranged by him if the measuring instruments & tools shall be duly calibrated and recent certificate to that effect should be submitted to our Resident Manager/Engineer before the start of work.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV: T&P AND MMEs TO BE DEPLOYED BY CONTRACTOR

4.2.0. LIST OF CONSUMABLES TO BE ARRANGED BY CONTRACTOR.

(The list is indicative only not exhaustive).

1. Grease/Graphite grease. Waste cloth / cotton, emery papers /rolls etc
2. Hacksaw blades, Tube alignment clamps, clamp & bar type scaffoldings (wooden scaffoldings are not acceptable), Cut off wheels, Grinding wheels, Gas cylinders for cutting/welding.
3. Chalk pieces, marking pens, thermo chinks upto 400° C, Polythene sheets, Electric fuse wire, cables for the connections, Gas cutting kits, welding machine, Grinding machine, Gas torch.
4. Heat treatment (pre-heat, post heat in Stress Relieving) if required.
5. BHEL approved Welding electrodes for IBR works. 100% radiography for IBR Joints.
6. If any special types of electrodes required shall be arranged by contractor within the quoted price.

REQUIRED CHEMICALS (Approximate Quantity)

S. No.	Particular of Chemicals	Quantity
1	Sodium Hydroxide	600 Kg
2	Trisodium phosphate	1000 Kg
3	Wetting Agent	90 Kg
4	Hydrochloric Acid (30%)	35 Ton
5	Inhibitor Coronil 213 SPL	550 Kg
6	Ammonium Bifluoride	1000 Kg
7	Thiourea	1000 Kg
8	Citric Acid	1500 kg
9	Hydrazine Hydrate (80% conc.)	400 Ltrs
10	Liquor Ammonia	5000 kg
11	Nitrogen (7cu.m / cylinder	200 Nos
12	Bleaching Powder	500 Kg
13	Sodium Carbonate	2000 Kg
14	Hydrated Lime	5000 Kg
15	Caustic lye (50%)	30 MT
16	Sodium Nitrite	1000 Kg
17	Ammonium Carbonate	1000 Kg

Note: The above list is only indicative and not exhaustive. Arrangement for any other consumables required for the timely completion of the job shall be the responsibility of the contractor and shall be arranged by him within his quoted rates.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-V: QUALITY REQUIREMENTS

5.0 QUALITY REQUIREMENT

- 1.0.** Various inspection/ quality control / quality assurance procedure/ methods at various stages will be as per BHEL/ customer quality control procedure/ codes/ IBR and other statutory provisions and as per BHEL Engineer's instructions.
- 2.0.** Preparation of quality assurance log sheets and protocols with customer's engineers, welding logs, other quality control and quality assurance documentation as per BHEL Engineer's instructions, is within the scope of work/ specification.
- 3.0.** A daily log book should be maintained by Area In-charge of contractor on the job incorporating alignment/ clearance/ cutting/erection/ leveling readings and inspection details of various works related to subjected work is to be submitted to BHEL Site I/c.
- 4.0.** All the important measurements like preassembly checking of alignment leveling/ Clearances work etc. and after during erection shall be recorded in the daily log book with sketches based on BHEL drawings indicating readings/ measurements actually taken and signed by BHEL/ Customer/ Contractor representatives.
- 5.0.** Total quality is the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He will follow the instructions as per BHEL drawings and quality standards.
- 6.0.** The welder's performance will be reviewed from time to time as per the BHEL/ IBR standards and any welder not performing to the standards set by BHEL/ IBR standards will be removed from working, Contractor shall arrange for the alternate welders immediately.
- 7.0.** All the welders including HP welders shall carry identity cards. Only welders duly authorised by BHEL/ Boiler inspector/ customer/ consultant shall be engaged on the work.
- 8.0.** STAGE INSPECTION BY BHEL / CUSTOMERS ENGINEERS
Apart from day-to-day inspection/ stage inspection of equipments by BHEL engineers, the set may be checked at various stages by customer's engineers and quality assurance teams. Contractor shall arrange all labour, tools/tackles etc. for such inspections free of cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VI : TIME SCHEDULE

6.0.0. TIME SCHEDULE AND MOBILIZATION.

MOBILIZATION

6.1.0. PRE SHUTDOWN WORK TO CARRY OUT:-

1. Mobilization of site.
2. Arranging Gate pass hence the action should take well in advance i.e. before shutdown of unit.
3. Shifting of material i.e. Pipes, Pumps etc to work spot.
4. Laying of Neutralization line from Boiler Unit #5 (near to CST Tank) to the Neutralization Pit.
5. Laying of all other associated pipe lines i.e. steam line, nitrogen line, circulation line, installation of Motor – Pumps, Electrical Panels etc.
6. Fabrication of Mixing Tank at site.
7. Site office, inhibitor testing etc.

6.1.1 INITIAL MOBILIZATION

Full-fledged team shall be mobilized within **2 days** after the placement of LOI and in consultation with RSM/SAS

6.1.2 MOBILIZATION FOR ERECTION, TESTING, ASSISTANCE FOR COMMISSIONING ETC.

The activities for erection, testing, Overhauling etc. shall be started as per directions of Construction Manager/BHEL In charge of BHEL. Contractor shall mobilize further resources along with T&P (in addition to those required for activities under clause no. 6.1.1 & 2.0.0.) as per requirement to commence the work of erection, testing, Overhauling etc. of boiler and auxiliaries and progressively augment the resources to match schedule of the project.

6.1.3. Period of completion:-

The entire work of overhauling work shall be completed within a period of **20 days**.

- ◆ The tentative outage schedule of the Thermal Boiler set as informed by GSECL Ukai Thermal Power Station shall be in the Second week of January' 2015.
- ◆ Work is to be done round the clock (24 hrs) with obey the Indian Labour Laws.
- ◆ Unit shut down shall be tentatively planned by 15th. January 2015.
- ◆ Separate Intimation shall be given to the contractor for shut down of Unit.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VII : TERMS OF PAYMENT

7.0.0. **Terms of Payment:-**

- 7.1.1. 95% Payment after the completion of Chemical cleaning and Boiler light up.
- 7.1.2. 5% After one month of successful commissioning / full load operation / completion of all works & also on payment of all dues and submission of all the documents like No Dues certificate from Customer, EPF challan, Insurance, Labour License, Labour Payment sheets, proof of payment of service tax etc

Note:- While submitting invoices, Vendor should mention their Bank Account No. on each of their invoices for making e-payment. Invoice should be sent in triplicate form. Ex BHEL Experts to be called by the contractor (in coordination with BHEL) for this Works. Payment to these experts shall be made by Contractor.

7.2 Retention money: Retention amount as indicated in Clause 2.22.1 of Vol. I C 'General Conditions of Contract' .

The bill due for payment shall be submitted to the Engineer in-charge of BHEL at site for necessary verification and processing through proper channel. It may be noted that payment will be released from the office of the RSM/Baroda after minimum fifteen days from the date of receipt of the duly verified bill from site.

7.3 Performance Guarantee Period for Workmanship: Guarantee Period as indicated in Clause 2.24.1 of 'General Conditions of Contract' **shall be 2 Months.**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII : TAXES AND OTHER DUTIES.

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

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

8.1.1

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

8.1.2 Service Tax & Cess on Service Tax

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

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

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

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

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

8.1.3 VAT (Sales Tax /WCT)

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII : TAXES AND OTHER DUTIES.

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

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

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

8.2 ~~'Enabling Works'~~

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

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

8.3 New Taxes/Levies

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

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

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