



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)**

Power Sector, Eastern Region,
Bhel Bhawan , Plot No. Dj-9/1 ,
Secotr II , Salt Lake City , Kolkata
WEST BENGAL, INDIA

Phone : 033-23216130-31,033-23216130, FAX : 033-23211960

NOTICE INVITING TENDER

TENDER DOCUMENT NO: PSER: PUR: MZP-S063:11 DATE: 19-03-2012

LAST DATE OF SUBMISSION OF COMPLETE OFFER: 03-04-2012 (15:00 HOURS)

(TECHNO-COMMERCIAL OFFER SHALL BE OPENED ON 04-04-2012 AT 11:00 HOURS)

SUB : TENDER DOCUMENT FOR "CHEMICAL CLEANING OF BOILER AT UNIT-1, 110 MW AT MUZAFFARPUR TPS, KBUNL, MUZAFFARPUR, BIHAR."

- 1.0 Sealed offers are invited from reputed & experienced bidders (**meeting pre-qualification criteria as mentioned**) at the above address to be submitted in two parts
 - a) Techno-Commercial **and** b) Price bid parts in two separate sealed covers which may be kept in an outer cover super-scribing the tender number on the envelopes as indicated in the "Particulars of the tender" enclosed.
- 2.0 The offer shall be submitted as per the instructions of tender document. Only One set of tender document (**in original, downloaded from website**) signed by authorised company rep. of bidder and stamped on each page shall be submitted as detailed further, as given below. Bidders to note specifically that all pages of tender document, including these NIT pages etc. appearing in the website for this particular tender shall be submitted by them (after signing/stamping on each page) as a part of their offer. **Price shall not be mentioned by them anywhere in the techno-commercial portion of offer, it shall be mentioned in the relevant price schedule only and submitted in separate sealed envelope.** In case of bidders facing any difficulty in downloading the tender from internet website, they should contact this office (AGM/Purchase Phone no. 033-23211690, 1496). **No alteration/changes by bidders is permitted in the tender/NIT appeared in the website.**
- 3.0 Successful bidder shall have to submit additional set of tender/sign on tender document provided by BHEL, if so decided by BHEL.
- 4.0 **Earnest Money Deposit (EMD) of Rs.1,00,000=00 (Rupees one lac only)** in the form of crossed Demand Draft / Pay Order (in favour of Bharat Heavy Electricals Limited, payable at Kolkata), shall be enclosed by the bidder along with the offer, failing which the tender is liable for rejection.

One time EMD for Rs. 1,00,000.00 (Rupees One Lakh only) will also be valid for all such jobs. Bidders who have deposited one time EMD of Rs. 1.00 lakh with BHEL: PSER for SAS job (evidence of deposit must be submitted) will be exempted from submission of EMD with this tender. The followings may be noted:

In case the bidder deposits separate EMD as mentioned above, there will be no change

- a) In existing clauses of this tender.
- b) In case of bidders having one time EMD; one time EMD can not be used for SD purpose. In this case, 50% of security deposit can be deposited by the successful bidder in the form of BG within time specified in the letter of intent and balance 50% of SD shall be deducted from RA bills @ 10% of gross value of RA bills till the full security deposit is made up.
- c) **Bank Guarantee shall not be acceptable towards EMD. The EMD shall be enclosed with the Techno-Commercial Bid (Part-A).**

5.0 The offers shall be sent in three separate sealed envelopes as under:--

COVER NO	SHALL CONTAIN FOLLOWING
COVER-I (TECHNO-COMMERCIAL BID)	<ol style="list-style-type: none"> i) Covering letter of offer ii) Pre-qualifying documents with all credential documents iii) Demand Draft etc towards Cost of Tender (if applicable) iv) Unpriced Techno-Commercial Bid v) Duly filled all annexures vi) References of subsequent correspondences, if any vii) Copy of records notes of Pre Bid Conference, if applicable/ pre-bid MOM. viii) Price schedule – Unpriced but mentioning only quoted / unquoted against each item ix) Copy of Tender change notice (TCN), if applicable. x) All supporting documents/ Annexures etc as applicable. xi) NIT pages (all pages) xii) No deviation certificate in bidders letterhead as per format given.
COVER-II (PRICE BID)	<ol style="list-style-type: none"> i) Copy of covering letter given in Cover-I ii) Duly filled in Price Schedule
COVER-III (EMD)	Demand Draft etc. towards EMD as per instruction

SPECIAL NOTE:

- A) Above three separately sealed covers shall together be enclosed in a fourth cover (Cover-IV). All the four sealed covers shall be clearly super scribed with **COVER NO WITH NOMENCLATURE, NAME OF THE JOB, TENDER DOCUMENT NO. AND DUE DATE OF SUBMISSION.**
 - B) Offer & documents submitted with the offer shall be signed and stamped in each page by authorised representative of the bidder. No overwriting/correction in tender documents by bidders shall be allowed.
 - C) 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.
- 6.0 No deviation with respect to tender clauses and no additional clauses/ suggestions/clarification in Techno-commercial bid/Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same. Offers with deviation are liable for rejection.
- 7.0 BHEL reserves the right to accept or reject any or all offer without assigning any reasons thereof. BHEL also reserve the right to cancel the tender wholly or partly

- without assigning any reason thereof. BHEL also reserve the right to split/part award the job. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD)
- 8.0 Bidders must visit site/ work area and study the job content, facilities available, present condition of machines 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. No additional claim shall be entertained by BHEL in future, on account of non-acquaintance of site/machine conditions at the time of bidding.
- 9.0 For any clarification on the tender document, you may seek the same in writing (two copies) **positively within 26-03-2012**, from the office of the undersigned which will be clarified to all the bidders. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay, and receipt of any query after due date shall not be entertained.
- 10.0 BHEL may decide holding pre-bid conference [PBC] with bidders. On such communication from BHEL, the bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL.
- 11.0 In case of absence of any queries from bidder(s), their quoted price will be PRESUMED to be final and complete with reference to the tender documents (including Tender change notes (TCNs), clarifications, corrigendum issued by BHEL, if any). Bidders are requested to study the tender documents in detail and prepare their queries /clarifications accordingly. All such queries / clarifications shall be cleared/replied by BHEL. Such clarification letters, corrigendum and/or Tender change notes (TCNs), if issued by BHEL, shall form part of tender document.
- 12.0 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/ contradictions between any two clauses of tender document, the same to be brought to the knowledge of BHEL by bidders in writing for clarification before due date of seeking clarification, otherwise, more stringent requirement as may be interpreted by BHEL shall prevail and shall be binding on you. Any typing error/missing pages/ other clerical errors in the tender documents, noticed by you must be pointed out before submission of offer, or else, BHEL'S interpretation shall prevail & binding on you.
- 13.0 Tender document containing above mentioned volumes shall be signed & stamped in all pages including this covering letter. Price bid shall be furnished in the format (Vol-III) enclosed with the tender. Any additional copy, if required, may be taken by photocopying from the tender document given in the web.
- 15.0 **The Price Bids of only those bidders will be opened, who will qualify for the subject job on the basis of pre-qualification evaluation of Techno-Commercial bids etc. BHEL's decision in this regard shall be final & binding.**
- 16.0 While BHEL reserve the right to open the price bid (Cover-II) of the offers in camera, the date & time to open the Cover-II (PRICE BID) tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, one authorised representative of the bidder shall be allowed to attend.
- 17.0 Validity of the offer shall be for **six months** from the due date of offer submission (including extension, if any).

- 18.0 Firm prices are to be quoted in whole rupees, in the place meant for price or on the price schedule enclosed as applicable for the full scope of work given in VOL-II. The rates quoted must be in figures and words as well (Prices quoted must be workable too for the job involved). Prices quoted by the bidders should be inclusive of all taxes and duties leviable by any statutory authority for this job as on the date of the tender opening (excluding service tax and educational cess on service tax)
- 19.0 Price Bids shall be evaluated based on Lump sum Price only. However, Unit Rates shall also be furnished if applicable in the Price Schedule.
- 20.0 Overwriting or erasures should be avoided. If however, they exist they must be invariably attested.
- 21.0 BHEL reserves the right to accept or reject any bid without assigning any reasons thereof. BHEL also reserves the right to cancel the tender wholly or partly without assigning any reasons.
- 22.0 While BHEL reserves the right to open the price bid of the offers in camera, the date & time to open the tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, one authorized representative of the bidder shall be allowed to attend.
- 23.0 The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of evaluation of Techno-Commercial bid & Pre Qualifying Criteria etc. **BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of a contract. BHEL's decision in this regard shall be final & binding.**
- 24.0 **BHEL reserves the right to go for Reverse Auctioning. Reverse Auction is the type of auction typically conducted to buy goods / items over Internet in which the lowest price bidder wins. In case, the bidders are willing to know the details about the methodology, they may please contact AGM/PUR OR SDGM/PUR, BHEL, KOLKATA.**
- 25.0 **The offers of the bidders who are on the banned list as also the offer of the bidders, who engages the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.**

Tenders must adhere to the "GENERAL & SPECIAL CONDITIONS OF CONTRACT "(GCC-FOR SERVICES JOB) AND "SPECIFIC TERMS & CONDITIONS FOR SERVICES JOB"(SCC) and quote accordingly. Any terms and conditions not covered in this, will be governed by GCC & SCC.

BHEL RESERVES THE RIGHT TO ACCEPT/REJECT ANY OR ALL THE BIDS WITHOUT ASSIGNING ANY REASON THEREOF. RESPONSIBILITY OF POSTAL/COURIER DELAY SHALL NOT REST WITH BHEL.

for & on behalf of **BHARAT HEAVY ELECTRICALS LTD**

SDGM /PURCHASE

ANNEXURE-II

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

To,
Bharat Heavy Electricals Limited,
POWER SECTOR – EASTERN REGION
2nd FLOOR, Block-DJ, Plot- 9/1, SECTOR
SALT LAKE CITY, KOLKATA – 700 091
FAX – 033-2321-1960

**Sub: NO DEVIATION CERTIFICATE FOR “CHEMICAL CLEANING OF BOILER AT UNIT-1,
110 MW AT MUZAFFARPUR TPS, KBUNL, MUZAFFARPUR, BIHAR.”**

TENDER DOCUMENT NO: PSER: PUR: MZP-S063:11 DATE: 19-03-2012

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/modified the tender documents as appeared in the website/newspapers and in case of observance at any stage, it shall be treated as null and void. **We** hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT and confirm our acceptance to **reverse auctioning process** and we hereby convey our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer strictly in accordance with tender instructions.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the contractor)

ANNEXURE – III**PRE-QUALIFYING REQUIREMENTS OF BIDDERS****TENDER DOCUMENT NO: PSER: PUR: MZP-S063:11 DATE: 19-03-2012****JOB: “CHEMICAL CLEANING OF BOILER AT UNIT-1, 110 MW AT MUZAFFARPUR TPS, KBUNL, MUZAFFARPUR, BIHAR.”**

SL NO	CRITERIA	REFERENCE ANNEXURE OF SUPPORTING DOCUMENT
A	PRE-QUALIFICATION CRITERIA	
1.0	BIDDERS SHOULD HAVE AVERAGE ANNUAL FINANCIAL TURNOVER OF MINIMUM 16.5 LAKH IN LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2011 AND MUST HAVE EARNED PROFIT IN ANY ONE OF LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2011 & SHOULD HAVE POSITIVE NET WORTH AS ON 31-03-2011. AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY NEED BE SUBMITTED FOR LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2011 IN SUPPORT OF THIS REQUIREMENT. IN CASE AUDITED FINANCIAL STATEMENTS HAVE NOT BEEN SUBMITTED FOR ALL THE THREE YEARS AS INDICATED AGAINST ABOVE, THEN THE APPLICABLE AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEARS, WILL BE AVERAGED FOR THREE YEARS.	
2.0	BIDDER SHOULD HAVE EXECUTED CHEMICAL CLEANING OF AT LEAST THREE POWER PROJECTS/PLANTS OF RATING 60 MW UNIT OR ABOVE DURING LAST 7 (SEVEN) YEARS, ENDING ON LATEST DUE DATE OF OFFER SUBMISSION. RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.	
3.0	BIDDER SHOULD HAVE VALID PAN. RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.	
NOTE		
1.0	NO CONSORTIUM/JV BIDDING IS ALLOWED FOR THIS TENDER.	
2.0	AFTER SATISFACTORY FULFILLMENT OF ALL THE ABOVE CRITERIA, OFFER SHALL BE CONSIDERED FOR FURTHER EVALUATION AS PER NIT AND ALL OTHER TERMS OF THE TENDER.	
3.0	CONSIDERATION OF OFFER WILL BE SUBJECT TO CUSTOMER'S APPROVAL OF BIDDER.	

GENERAL INFORMATION:

VENDOR SHOULD FURNISH INFORMATION REGARDING PROJECTS IN HAND, DETAILS OF CURRENT LITIGATION AND ARBITRATION CASES, ORDERS REGARDING EXCLUSION/EXPULSION OR BLACK LISTING, IF ANY.

CORRIGENDUM/EXTENSION (IF ANY) OF THIS TENDER WILL BE PUBLISHED IN THIS WEBSITE ONLY.

NOTE: PURCHASE PREFERENCE WILL BE GIVEN TO CPSUs AS PER GOVERNMENT GUIDELINES.

INTERESTED BIDDERS MEETING THE ABOVE QUALIFYING REQUIREMENTS MAY DOWNLOAD TENDER DOCUMENTS FROM THIS WEBSITE OR MAY PURCHASE HARD COPY OF TENDER DOCUMENTS BY REMITTING RS.1000/- (NON-REFUNDABLE) PAYABLE IN THE FORM OF DEMAND DRAFT IN FAVOUR OF **BHARAT HEAVY ELECTRICALS LIMITED** PAYABLE AT KOLKATA OR IN CASH ON ALL WORKING DAYS BETWEEN **14=00 AND 16=00 HOURS** ON OR AFTER THE PUBLICATION IN WEB SITE. IN CASE THE DOCUMENT IS DESPATCHED BY POST, THE COST OF DISPATCH RS. 250/- (NON-REFUNDABLE) IS TO BE PAID ALONG-WITH THE COST OF TENDER DOCUMENT.

SALES OF TENDER DOCUMENT STARTS	: 19-03-2012
TENDER SALE CLOSES ON	: 02-04-2012 UP TO 15:00 HRS.
LAST DATE OF SEEKING CLARIFICATIONS	: 26-03-2012
PRE-BID DISCUSSION (IF REQUIRED) ON	: TO BE INTIMATED
LAST DATE OF SUBMISSION OF OFFER	: 03-04-2012 UP TO 15:00 HRS.
DATE OF OPENING (TECHNO-COMMERCIAL OFFER)	: 04-04-2012 AT 11:00 HRS.

BHEL RESERVE THE RIGHT TO ACCEPT/REJECT ANY OR ALL THE BIDS WITHOUT ASSIGNING ANY REASON THEREOF. RESPONSIBILITY OF POSTAL/COURIER DELAY SHALL NOT REST WITH BHEL.

NOTE: PRE-BID DISCUSSION, IF TAKE PLACE, SHALL FORM PART OF THE TENDER DOCUMENT. NO CLARIFICATIONS/QUIERIES FROM THE TENDERERS AFTER 26-03-2012 OR PRE-BID CONFERENCE (IF TAKES PLACE) SHALL BE ENTERTAINED BY BHEL. VENDORS INTENDING TO PURCHASE TENDER AFTER 26-03-2012 OR PRE-BID CONFERENCE SHALL NOTE THE ABOVE SPECIFICALLY.

ENCLOSURES:--

- i) SCOPE OF WORK & OTHER DETAILS : FOR “CHEMICAL CLEANING OF BOILER AT UNIT-1, 110 MW AT MUZAFFARPUR TPS, KBUNL, MUZAFFARPUR, BIHAR.”- (ANNEXURE-I- 14PAGES)**
- ~~ii) TENTATIVE LIST OF T & P (ANNEXURE II 04 PAGES)~~
- ~~iii) LIST OF CONSUMABLES (ANNEXURE III 01 PAGES)~~
- ~~iv) ESSENTIAL CONDITIONS TO BE FULFILLED BY SUCCESSFUL BIDDER (ANNEXURE SAS I 02 PAGES)~~
- ~~v) SPECIAL NOTE TO BIDDERS (ANNEXURE IV 02 PAGES)~~
- vi) GENERAL & SPECIAL CONDITIONS OF CONTRACT (FOR SERVICES JOB- 23+14 PAGES)**
- vii) NO DEVIATION CERTIFICATE AS PER PRESCRIBED FORMAT (ANNEXURE-II)**
- viii) PRE-QUALIFICATION CRITERIA (ANNEXURE-III)**
- ix) DECLARATION OF THE BIDDERS (ANNEXURE-IV)**
- x) PRICE SCHEDULE (ANNEXURE-V)**

ALL THE PAGES OF NIT SHALL BE DULY SIGNED & STAMPED BY THE BIDDER WHILE SUBMITTING THE OFFER.

For & on behalf of **BHARAT HEAVY ELECTRICAL LIMITED**

SDGM/PURCHASE

PARTICULARS OF THE TENDER

- A) TENDER NUMBER : **PSER: PUR: MZP-S063:11 DATE: 19-03-2012**
- B) WORK : **“CHEMICAL CLEANING OF BOILER AT UNIT-1, 110 MW AT MUZAFFARPUR TPS, KBUNL, MUZAFFARPUR, BIHAR.”**
- C) TENDER SUBMISSION DUE DATE : **ON 03-04-2012 UP TO 15:00 HRS.**
- D) TECHNICAL BID OPENING DATE : **ON 04-04-2012 AT 11:00 HRS.**
- E) PRICE BID OPENING :
- F) VALIDITY OF OFFER : **SIX (06) MONTHS FROM DUE DATE OF OFFERS SUBMISSION.**
- G) MOBILIZATION TIME : **FIVE (05) DAYS**
- H) COMPLETION PERIOD : **THIRTY (30) DAYS FROM START OF WORK, AS PER SCOPE, ANNEXURE-I**
- I) TARGET COMPLETION DATE :

J)The vendors should furnish the following documents for our scrutiny along with papers for pre-qualification for qualifying for price bid opening.

- 1) Credential / Experience certificates (this is not necessary for vendors who executed similar jobs as of this tender earlier, awarded by this office)
- 2) PAN NO & Photo Copy of PAN CARD/Sales Tax Clearance certificate.
- 3) Latest Banker’s certificate for financial soundness.
- 4) Balance sheets & P&L Accounts for the preceding three years
- 5) Organizational chart
- 6) Relevant list of T&P held by the vendor earmarked for the tendered job
- 7) List of concurrent contracts held by the Contractor.

NOTE: Vendors registered with BHEL should submit documents in support of sl. no 2 only if not already given.

Particulars of Tender (Continued)

Facilities to be provided to contractors as described below :

All T&P required / recommended for the work against this tender shall have to be mobilized by the contractor fully at their expense within the quoted price.

Any special T&P i.e. T&P made available by the manufacture of the equipment to the customer can be made available to the contractor free of charges subject to availability at site.

Any consumables required / recommended for the work against this tender shall have to be mobilized by the contractor fully at their expenses within the quoted price.

Regarding other facilities for the contractors the following table clarifies adequately. Vendor are expected to quote considering these without any deviations from the provisions of "Notice Inviting Tender".

Deviated offers are liable for rejection of price bid opening

a) Water	• Free of Charges	On Chargeable basis	Cannot be provided
b) Power	• Free of Charges	On Chargeable basis	Cannot be provided
c) Storage Space	Free of Charges	On Chargeable basis	• Cannot be provided
d) Covered Space	Free of Charges	On Chargeable basis	• Cannot be provided
e) Uncovered Space	• Free of Charges	On Chargeable basis	Cannot be provided
f) E.O.T. Crane	• Free of Charges	On Chargeable basis	Cannot be provided
g) Operators for the above	• Free of Charges	On Chargeable basis	Cannot be provided
h) Residential accommodation for sub-contractors' personnel.	Free of Charges	On Chargeable basis	• Cannot be provided
i) Compressed air	Free of Charges	On Chargeable basis	• Cannot be provided
j) Work shop facilities	• Free of Charges	On Chargeable basis	Cannot be provided

k) i)	Crane/Hydra for heavy materials if available.	Free of Charges	On Chargeable basis	• Cannot be provided
ii)	Operator for K (i)	Free of Charges	On Chargeable basis	• Cannot be provided
iii)	Fuel charges for K (ii)	Free of Charges	On Chargeable basis	• Cannot be provided
l)	Other material handling equipment	Free of Charges	On Chargeable basis	• Cannot be provided
m)	Trailor	Free of Charges	On Chargeable basis	• Cannot be provided
n)	Wooden Sleepers	Free of Charges	On Chargeable basis	• Cannot be provided
o)	Tarpulins	Free of Charges	On Chargeable basis	• Cannot be provided
p)	Scaffolding materials	Free of Charges	On Chargeable basis	• Cannot be provided

No advance is payable to the contractors for mobilizing the site. Any payment can be made only against running bills as per payment terms.

For & on behalf of **BHARAT HEAVY ELECTRICALS LIMITED**

SDGM/PURCHASE

ANNEXURE-IV

DECLARATION OF THE BIDDERS

01. I,hereby certify that all the information and date furnished by me with regard to this **Tender No. PSER: PUR: MZP-S063:11 DATE: 19-03-2012** are true and complete to the best of my knowledge.
02. I have gone through the tender specifications, scope of work, terms and conditions mentioned in Annexure as well as General and Special conditions of contract and various stipulations in detail and agree to abide by them and comply with the requirements and intent of specifications.
03. I also certify that there have been no deviations from the tender requirements in the bid submitted against this tender.
04. I further certify that I am duly authorized representative of the under mentioned tenderer and hold a valid power of attorney to this effect, a copy of which is enclosed.

Signature :

Name :

Date :

Designation :

Seal :

Tenderers Name and address

ANNEXURE – I**SUB-CONTRACTOR'S SCOPE OF WORK****SCOPE OF WORK FOR CHEMICAL CLEANING WITH EDTA
FOR
Muzaffarpur TPS, Unit-1, KBUNL, 110 MW UNIT BOILER**

CUSTOMER : KBUNL
 PROJECT : MUZAFFARPUR 110 MW R&M PROJECT
 UNIT : I
 DURATION : THIRTY (30) DAYS FROM START OF WORK
 BOILER DESCRIPTION:

NATURAL CIRCULATION, RADIANT REHEAT, OUTDOOR, PULVERISED FUEL BOILER WITH SINGLE DRUM, DRY BOTTOM, BALANCED DRAUGHT, TANGENTIAL FIRING.

BOILER PARAMETERS:

STEAM PR. AT SUPERHEATER OUTLET : 130 kg/cm²
 STEAM TEMP. AT SUPERHEATER OUTLET : 540⁰ c

WATER HOLDING CAPACITY:

1. WATER WALL + DRUM (FULL)	91.5 M ³
2. ECONOMIZER ..	30 M ³
3. SUPERHEATER ..	47 M ³
4. REHEATER ..	15 M ³

CHEMICAL CLEANING

1. SUCCESSFUL BIDDER HAS TO DO THE EDTA ACID CLEANING OF BOILER ON TURNKEY BASIS WITH OWN MANPOWER & OPERATORS FOR CARRYING OUT THE ACTIVITIES.

2. SCOPE OF CLEANING:

- A) ECONOMISER
- B) TOTAL EVAPORATIVE SYSTEM.

OTHER PRESSURE PARTS OF BOILER LIKE SUPERHEATER & REHEATER AND POWER CYCLE PIPING ARE CLEANED BY STEAM BLOWING OPERATION AT A LATER STAGE SUBSEQUENT TO CHEMICAL CLEANING OPERATION. (NOT IN CHEMICAL CLEANING VENDOR SCOPE)

3. **SPECIFICATION AND QUANTITY OF CHEMICALS TO BE PROVIDED BY SUCCESSFUL BIDDER WITHIN THE LUMP SUM QUOTED PRICE :**

A. TRISODIUM PHOSPHATE, IS: 573: 1992 PURITY AS P2O5: 17.5%	200 KG
B. DISODIUM PHOSPHATE, IS: 566: 1994, AFFM-1 REV-04, PURITY 99%	100 KG
C. Tetra ammonium EDTA (40% w/w conc) pH: 9.8 (Max), Sp Gr: 1.18, STRAW YELLOW LIQUID (EDTA : ETHYLENE DIAMINE TETRA ACETIC ACID)	18 Tons
D. AMMONIA SOLUTION (20 % w/w conc) To IS 799 / 1990, SP GR 0.91	600 LITRES
E. HYDRAZINE HYDRATE (80% MIN.CONC). To IS 12086/1991	500 LITRES
F. BHELMAX	300 Kg
G. BHEL SOL	300 LTRS

NOTE; BIDDER IS ADVISED TO VISIT THE MUZAFFARPUR TPS, KBUNL TO GET FAMILIAR WITH THE PLANT AND LOCAL SITE CONDITIONS BEFORE SUBMITTING THE TENDER. SUPPLIERS OF BHEL SOL & BHELMAX ARE: M/s CHEMICALS (INDIA) COMPANY, M/s ARUDRA ENGINEERS (P) LTD., M/s BAY-CHEM FABRICKS P. LTD., M/s WATER CARE TECHNOLOGIES, M/s R V S & Co., M/s HANKA ORGANICS (P) LTD.

4. **ARRANGEMENTS TO BE DONE BY SUCCESSFUL BIDDER WITHIN THE LUMP SUM QUOTED PRICE:**

- A) ALL FABRICATION WORK OF TEMPORARY TANK OR BRINGING READYMADE TANK AND PIPING SYSTEM IS TO BE COMPLETED AS PER ATTACHED SCHEME AND BOM. MATERIALS IS ALSO TO BE ARRANGED BY SUCCESSFUL BIDDER WITHIN LUMP SUM QUOTED PRICE. PROVIDING AND LAYING OF EFFLUENT TREATMENT PIPE LINE UP TO EXISTING DM WATER EFFLUENT TREATMENT PIT ALONG WITH DRAINAGE ARRANGEMENT TO AND FROM PIT. BOILER DRAINAGE CANAL IS ALSO TO BE MADE AVAILABLE.
- B) CHEMICAL CLEANING VENDOR SHOULD ENSURE ALL CLEARANCES FOR BOILER LIGHT UP AND SUBSEQUENT RAISING OF TEMPERATURE ARE TO BE MADE AVAILABLE BY MAIN BOILER CONTRACTOR. IT IS TO BE ENSURED THAT NO RESTRICTION IS THERE FOR FREE EXPANSION OF BOILER.

- C) ENSURE EXPANSION TRAMELS ARE TO BE INSTALLED AT UPPER DRUM, BOTTOM RING HEADER, BUCKSTAY CORNERS IN BOTH 1ST & 2ND PASS TO BE DONE BY MAIN BOILER CONTRACTOR.
- E) ALL THE PERMANENT BOILER INSTRUMENTS ARE TO BE ISOLATED EXCEPT PROVIDING A TEMPORARY PRESSURE GAUGE OF 0 TO 15 KG/ CM² IN THE DRUM FOR MONITORING PRESSURE IN THE DRUM DURING CHEMICAL CLEANING. ALL IMPULSE LINES CONNECTION WITH DRUM ARE ISOLATED IN THE ROOT VALVE ITSELF TO PREVENT CHEMICAL SOLUTION INGRESS.
- F) PROVISIONS SHOULD BE MADE AT THE FOLLOWING LOCATIONS FOR THE MEASUREMENT OF TEMPERATURE :

A) TWO LOCATIONS IN THE DRUM (LEFT & RIGHT) FOR THE MEASUREMENT OF BOILER WATER TEMPERATURE. LONG THERMOCOUPLES OF AROUND 400 MM LENGTH SHALL BE INSTALLED DIRECTLY IN THE SPARE / UNUSED STUBS IN THE DRUM.

B) WATER WALL & ECO METAL TEMPERATURE MEASUREMENTS AT THE FOLLOWING LOCATIONS:

1. AT AB ELEVATION, 4 NUMBER THERMOCOUPLES SHALL BE INSTALLED ON CORNER WATER WALL TUBES (OUTSIDE THE FURNACE). AT CD ELEVATION 2 NUMBERS THERMOCOUPLES SHALL BE INSTALLED IN THE FRONT AND REAR WATER WALL (OUTSIDE THE FURNACE) AT ACCESSIBLE LOCATIONS.
2. TWO MORE THERMOCOUPLES WITH PADS ONE EACH AT LEFT AND RIGHT SIDE OF ECO COIL SHALL BE WELDED AT SUITABLE LOCATIONS, INSIDE THE BOILER (OR PENTHOUSE) TO MEASURE THE METAL TEMP. IN THE GAS SIDE.

(TOTAL 6 NOS THERMOCOUPLES WILL BE USED FOR MEASUREMENT OF WATER WALL TUBE METAL TEMPERATURE AND TWO NOS FOR ECONOMIZER TUBE TEMPERATURE)

PEENING TYPE TEMPORARY THERMOCOUPLES ARE TO BE PROVIDED IN THE TEMP MEASUREMENT POINTS ON THE WATER WALLS AND ECONOMIZER. HALF CUT TUBES WITH ID MATCHING WITH WATERWALL/ ECONOMISER TUBE OD WITH A THROUGH HOLE ARE THE MOST SUITABLE ONES. ALTERNATIVELY SPARE MTM PADS CAN BE USED. TEMP. ELEMENTS ARE TO BE PROVIDED BY SUCCESSFUL BIDDER WITHIN LUMP SUM QUOTED PRICE.

PROVISION HAS TO BE MADE FOR DIRECT MONITORING OF TEMPERATURE IN THE CONTROL ROOM (CRT). MINOR CABLE LAYING FOR CRT READING IS TO BE DONE BY SUCCESSFUL BIDDER IN LUMP SUM SCOPE OF WORK WITHIN QUOTED PRICE.

REGULAR METAL TEMP INDICATORS FOR SH/RH/DRUM ARE ALSO TO BE MADE AVAILABLE. ALL THE TEMP. ELEMENTS ARE TO BE PROVIDED BY SUCCESSFUL BIDDER WITHIN LUMP SUM QUOTED PRICE.

- G) TO GET REPRESENTATIVE SAMPLES OF THE PROCESS SOLUTION, SAMPLING POINTS WITH SAMPLE COOLERS ARE TO BE PROVIDED AT THE FOLLOWING LOCATIONS:
- A) DRUM WATER SAMPLE TO BE DRAWN FROM CBD SAMPLING COOLER OR ADDITIONALLY FROM A SPARE TAPPING POINT (E.G. PHOSPHATE DOSING LINE).
 - b) TWO NUMBERS OF SAMPLING POINT ARE TO BE PROVIDED DIRECTLY FROM BOTTOM RING HEADER (FROM THE EXISTING HANDHOLE STUBS BY DIRECTLY DRILLING HOLE OF SIZE OF SAMPLING TUBE OD).
- H) TEMPORARY DRUM WATER LEVEL GAUGE GLASS AND (TEL-TALE LAMP INDICATION) AT CONTROL ROOM AND LOW POINT DRAIN AREA. IBD OR CBD TANK LEVEL GAUGE CAN BE USED TEMPORARILY FOR THIS PURPOSE. PERMANENT DWLI CAN BE USED AS A LAST RESORT IF NO OTHER LEVEL GAUGE CAN BE ARRANGED.
- I) OTHER THAN MASTER DRAIN ALL OTHER DRAINS OF WATERWALL AND ECONOMIZER CONNECTED TO COMMON LOW POINT HEADER CAN BE KEPT OPEN FOR ECO RECIRCULATION PURPOSE.
- J) ALL DRUM INTERNALS CAN BE KEPT INSTALLED.
- K) CHEMIST AND EXPRESS LAB TO BE MADE AVAILABLE FOR TESTING DURING THE PROCESS NEAR THE PUMPING STATION WITHIN LUMP SUM QUOTED PRICE.
- L) FLOOD LIGHTS AT ALL WORKING SPOTS SHOULD BE MADE ARRANGED AND MADE AVAILABLE.
- M) FOR EFFLUENT TREATMENT, COMPRESSED AIR FACILITY AND SUITABLE PERFORATED CARBON STEEL / POLYTHENE TUBING ARRANGEMENT SHALL BE MADE AVAILABLE FOR DISTRIBUTION OF AIR THROUGHOUT THE TEMPORARY EFFLUENT PIT. PORTABLE COMPRESSOR HAS TO BE ARRANGED BY SUCCESSFUL BIDDER WITHIN LUMP SUM QUOTED PRICE.
- N) SUFFICIENT AMOUNT OF FUEL OIL, DM WATER WILL BE MADE AVAILABLE BY KBUNL.

- O) FOR ALKALI FLUSHING, HOT WATER FLUSHING, CHEMICAL CLEANING AND PASSIVATION PROCESSES, ESSENTIAL CONTROL AND INSTRUMENTS VIZ. PROTECTIONS, INTERLOCK, ALARMS, MEASUREMENT, ANNUNCIATION ETC. REQUIRED FOR SAFE LIGHT-UP OF BOILER ARE TO BE MADE AVAILABLE BY BHEL/KBUNL, AS PER MUTUALLY AGREED LIST BETWEEN M/S BSEB/KBUNL AND BHEL SITE.
- P) ONE SET OF BOILER AUXILIARIES (ID/FD/AH) ARE TO BE MADE READY AND AVAILABLE FOR BOILER LIGHT UP BY BHEL/KBUNL. THESE ALSO INCLUDE CHEMICAL DOZING PUMPS, TANKS, BOILER WATER FILLING PUMP, OIL PUMPS ETC. A CHECKLIST, CONTAINING MINIMUM REQUIREMENTS TO BE MADE READY PRIOR TO COMMENCEMENT OF CHEMICAL CLEANING.
- Q) AT LEAST ONE ELEVATION OIL GUNS, SCANNERS & IGNITORS ARE TO BE COMMISSIONED THROUGH FSSS AND AVAILABLE FOR REMOTE OPERATION BY BHEL/KBUNL. LDO PUMPING SYSTEM ALONGWITH PIPING AND CONTROL STATION ARE ALSO TO BE MADE AVAILABLE AFTER CLEANING/FLUSHING OPERATION BY BHEL/KBUNL.
- R) COMMUNICATION SYSTEM BETWEEN CONTROL ROOM, DRUM LEVEL, FIRING FLOOR, BOILER ZERO METER LEVEL AND CHEMICAL PUMPING STATION IS COMMISSIONED AND MADE AVAILABLE FOR REGULAR USE. WALKI TALKIES CAN ALSO BE UTILIZED AS AN ALTERNATIVE COMMUNICATIONAL AID.
- S) ALL THE SAFETY MEASURES DISCUSSED AND IMPLEMENTED IN ADVANCE WITH SUITABLE INSTRUCTION/CAUTION TAGS PROVIDED AT STRATEGIC PLACES/EQUIPMENT.
- T) WATER WALL TEST TUBE COUPONS ARE PLACED AT TWO ENDS INSIDE THE DRUM TO SEE THE EFFECTIVENESS OF THE CLEANING. THE COUPONS SHALL BE HUNG USING STAINLESS STEEL WIRES.
- U) EASY ACCESS AND APPROACHES TO BE ENSURED FOR ALL THE OPERATING EQUIPMENTS.
- V) FIRE FIGHTING SYSTEM FOR ALL THE OPERATING SYSTEM WILL BE MADE AVAILABLE BY KBUNL/BHEL.
- W) EMERGENCY POWER SUPPLIES MAY BE ARRANGED BY BHEL/KBUNL.

X) BLOW DOWN SYSTEM AND PROPER DRAINAGE SYSTEM OF THE BOILER AREA ARE TO BE ENSURED.

6. **SAFETY PROVISIONS**

A) SAFETY EQUIPMENTS:

ENSURE THE AVAILABILITY OF FOLLOWING UNDER LUMP SUM SCOPE

- | | |
|---|---------|
| 1. GUM BOOTS (VARIOUS SIZES) | 6 PAIRS |
| 2. RUBBER GLOVES | 6 PAIRS |
| 3. RUBBER OR POLYTHENE APRONS | 6 NOS. |
| 4. HELMETS | 12 NOS. |
| 5. SAFETY GOGGLES PLAIN GLASS | 6 NOS. |
| 6. FACE MASK (TRANSPARENT , PLASTIC) | 4 NOS. |
| 7. FIRST AID BOX (CONTAINING DILUTE AMMONIUM HYDROXIDE, 50% SODIUM BICARBONATE SOLUTION, EYE LOTION, BANDAGES, TINCTURE IODINE, COTTON, BURNOL ETC) | |

B) Emergency provisions to be provided by successful bidder within the lumpsum quoted price

A. FLUSHING AND WASHING WATER SUPPLIES

1. AMPLE SUPPLIES OF TEPID FLUSHING AND WASHING WATER SUPPLIES SHALL BE PROVIDED AT ALL POSSIBLE POINTS OF DISCHARGE, SPILLAGE OR ESCAPE OF CHEMICALS.

2. ADEQUATE PROVISIONS SHALL BE MADE FOR EMERGENCY TREATMENT OF THE EYES, COMPRISING EYE WASH BOTTLES, LOCATED CONVENIENTLY TO PLACES WHERE DISCHARGE, SPILLAGE OR ESCAPE OF CHEMICALS CAN OCCUR.

3. SAFETY SHOWER SHALL BE PROVIDED.
4. SUITABLE FIRST AID TREATMENT ROOM WITH OUTSIDE TELEPHONE FACILITIES SHALL BE PROVIDED WITHIN A REASONABLE DISTANCE OF THE PLACE WHERE CHEMICALS ARE BEING USED.
5. THE PROTECTIVE CLOTHING AND APPARATUS REQUIRED FOR EMERGENCY USE SHALL BE MADE AVAILABLE NEAR THE ACID CLEANING AREA.

B FIRST AID TREATMENT

1. SPLASHES OF THE EYE
2. IMMEDIATELY FLOOD THE EYE WITH WATER. TO BE EFFECTIVE THE EYELIDS MUST BE OPENED. THE EYELIDS SHOULD BE PUSHED APART USING THE THUMB AND INDEX FINGER OF THE LEFT HAND. THE CASUALTY WILL PROBABLY NOT BE ABLE TO OPEN THE EYE HIMSELF BECAUSE OF PAINFUL SPASMS.
3. IF AN EYE WASH BOTTLE IS USED THE JET SHOULD NOT BE DIRECTED AT THE FRONT OF THE EYE. IT SHOULD BE DIRECTED IN FROM THE SIDE, SO THAT FLOW IS OVER THE SURFACE OF THE EYE.
4. IRRIGATION SHOULD BE CONTINUED FOR 5 - 10 MINUTES AFTER WHICH THE CASUALTY SHOULD BE TAKEN TO THE FIRST AID ROOM.
5. IRRIGATION SHOULD BE CONTINUED IN THE FIRST AID ROOM. REMEMBER VISION IS SAVED BY THOROUGH IRRIGATION, NO OTHER TREATMENT CAN PREVENT DAMAGE IF THIS IS OMITTED.
6. AFTER THOROUGH IRRIGATION THE EYE SHOULD BE COVERED WITH A PAD; THE PATIENT SHOULD BE REFERRED FOR MEDICAL OPINION.

C. Irritation of the skin:

1. IF SIGNS OF SKIN IRRITATION OCCUR THE PERSONS SHOULD BE REMOVED FROM CONTACT AND REFERRED FOR MEDICAL OPINION. IN THE EVENT OF THE SPLASHING OF THE SKIN WITH CHEMICALS THE EFFECTED AREA SHOULD BE WASHED THOROUGHLY AVOIDING SPREADING CONTAMINATION TO THE FACE AND EYES.

C) GENERAL:

1. TEST AREA WILL BE CORDONED OFF AND UNAUTHORIZED PERSONS ENTRY SHALL BE PROHIBITED. SUITABLE SIGNBOARD SHALL BE DISPLAYED.
2. WHENEVER ANY INSPECTION IS MADE DURING THE CLEANING PROCESS, THE LOCATION SHOULD BE ADEQUATELY VENTILATED.

D) SAFETY OF PLANT:

- A) IF THE RE- LIGHT UP AFTER CLEANING COULD NOT BE DONE WITHIN 4 WEEKS AFTER COMPLETION OF CLEANING, THE SYSTEM WILL BE SUITABLY PRESERVED BY KBUNL/BHEL.
- B) TEMPERATURE LIMITATIONS SPECIFIED FOR VARIOUS STEPS SHOULD NOT BE EXCEEDED.

NOTE: PRESERVATION OF EDTA IS TO BE ENSURED BY KEEPING THE THE EDTA IN LEAK PROOF TANK . TESTING OF EDTA TO BE PERFORMED FROM DESIGNATED LAB AS PER INSTRUCTION OF NTPC BY SUCCESSFUL BIDDER WITHIN THE LUMP SUM QUOTED PRICE.

E) EMERGENCY PROCEDURES:

1. THE TESTING TEAM SHOULD BE AWARE OF THE OPERATING PROCEDURES OF FIRE EXTINGUISHERS TO BE USED FOR QUENCHING MINOR OR MAJOR FIRES.
2. THE TESTING TEAM SHOULD BE AWARE OF THE PROCEDURE TO BE FOLLOWED IN CASE OF ACCIDENTS INVOLVING PERSONNEL INJURY.
3. IN CASE OF FAILURE OF RUNNING PUMP THE STAND BY PUMP SHOULD BE STARTED IMMEDIATELY WITHOUT DELAY.
4. AN OPERATOR POSTED AT THE PUMP AREA, SHOULD BE INSTRUCTED TO STOP THE PUMPS AND PROPERLY ISOLATE THE SYSTEM IN THE EVENT OF EMERGENCY. ALL OPERATORS SHOULD BE WELL CONVERSANT WITH THE EMERGENCY OPERATING.

7. PROCEDURE AS PER INSTRUCTION OF BHEL ENGINEER:

THE QUANTITIES OF VARIOUS CHEMICALS THAT ARE TO BE MIXED PER BATCH OF 20 M³ IS GIVEN BELOW:

1. EDTA AMMONIATED (40 %) CONCENTRATE: 1.5 TO 2 M³
 2. BHELMAX : 30 KGS
 3. BHELSOL : 30 LIT
 4. N₂H₄.H₂O (80%) : 30 LITRES
1. AMMONIA WILL BE ADDED IF REQUIRED TO ADJUST THE PH BETWEEN 9.0 TO 9.8. DM WATER WILL BE USED TO MAKE UP TO 20 M³ .

2. THIS SOLUTION WILL BE FILLED INTO THE BOILER THROUGH LP DRAIN HEADER BOILER FILL LINE WITH THE TEMPORARY CHEMICAL FILL PUMP.
3. THE CLEANING SOLUTION IS QUITE HARMLESS W.R.T CORROSION AND HENCE THERE IS NO TIME LIMITATION FOR FILLING THE BOILER AND RETAINING THE SOLUTION INSIDE THE BOILER.
4. REPEAT THE PREPARATION OF CHEMICAL SOLUTION AND BATCH FILLING AS EXPLAINED ABOVE TILL WATER LEVEL IN THE DRUM REACHES THE CENTER LINE OF THE GAUGE GLASS.

THE COMPOSITION OF THE FILLING SOLUTION SHALL BE AS BELOW:

EDTA CONTENT	:	4 ± 1% W/V
HYDRAZINE	:	1000 PPM (MIN)
PH	:	9.0 TO 9.8

5. A reserve of 20 tons of process solution may be kept ready always during the boiler operation until the end for any emergency requirement.
6. If there is a fall in EDTA residual concentration, (as evidenced by the analysis) adequate make-up of the process solution has to be injected into the system as explained above.
7. When the temperature comes down to 95 °C, all drain valves shall be opened and the system drained completely in hot condition to the effluent pit.

NOTE (Refer Drawings attached)

1. DRAINS TO BE PROVIDED AT LOWEST POINTS OF TEMPORARY PIPING.
2. ALL TEMPORARY CONNECTIONS TO BOILER SHOULD BE OF SOUND QUALITY.
3. WATER SUPPLY SHOULD BE AVAILABLE NEAR THE PUMP OPERATING AREAS.
 - a) WHEN THE IRON CONCENTRATION IN THE CLEANING SOLUTION IS CONSTANT, IT INDICATES THAT ALL THE OXIDES HAVE BEEN DISSOLVED. HOWEVER, A MINIMUM EDTA CONTACT PERIOD OF 6 HOURS FROM THE TIME OF ATTAINING THE REQUIRED TEMPERATURE (110 DEG. C) SHALL BE ALLOWED.
4. ADDITIONAL CHECK LISTS/MODIFICATIONS IN THE LAY-OUT, IF FOUND NECESSARY,
TO BE MADE AT SITE IN CONSULTATION WITH SITE IN- CHARGE.

3. ALL THE SAMPLING POINTS ALONG WITH SAMPLE COOLERS AND THE TEMPERATURE MEASUREMENT POINTS WITH NECESSARY THERMOCOUPLES SHALL BE PROVIDED
MEASUREMENT POINTS WITH NECESSARY THERMOCOUPLES SHALL BE PROVIDED.

10. APPENDICES

1. PROCEDURE FOR DETERMINATION OF TOTAL EDTA CONCENTRATION IN WATER SAMPLES DURING CHEMICAL CLEANING.

1. PRINCIPLE OF THE METHOD :

EDTA REACTS WITH ZIRCONIUM IONS UNDER STRONG ACID CONDITIONS TO FORM A CHELATE. THE END POINT OF THE TITRATION IS INDICATED BY A XYLENOLORANGE INDICATOR.

2. REAGENTS AND APPARATUS REQUIRED:

APPARATUS:

1. ERLLENMEYER FLASK 300 ML CAPACITY.
2. PIPETTES
3. HOT PLATE
4. MAGNETIC STIRRER

REAGENTS

1. HYDROCHLORIC ACID (CONC.)
2. STANDARD ZIRCONIUM OXY CHLORIDE ($ZrOCl_2 \cdot 8H_2O$) 0.1 M SOLUTION IN 1 N HCL. (TAKE A 1000 ML VOLUMETRIC FLASK AND ADD 32.23 GRAM OF $ZrOCl_2 \cdot 8H_2O$ AND ADD DM WATER TO ABOUT 500 ML. TO THIS ADD 85 ML OF CONC. HCL. MAKE UP TO 1000 ML MARK WITH DM WATER AND MIX WELL)
3. ASCORBIC ACID
4. XYLENOLORANGE INDICATOR.

3. TEST PROCEDURE :

1. PIPETTE OUT 100 CC OF THE WATER SAMPLE INTO A 300 ML ERLLENMEYER FLASK.
2. ADD 10 ML OF CONC. HCL (THE PH VALUE IS ABOUT 1.0)
3. ADD A SPATULA OF ASCORBIC ACID.

4. BOIL OF THE SOLVENT ON THE HEATING PLATE FOR ABOUT 5 MINUTES.(THE YELLOW COLOUR OF THE FERRIC ION SHOULD DISAPPEAR DUE TO REDUCTION TO FERROUS IRON.
5. IMMEDIATELY AFTER THE ADDITION OF 0.05 ML OF 0.05 % XYLENOL ORANGE INDICATOR THE SAMPLE IS TITRATED WITH 0.1M $ZrOCl_2$ UNTILL THE COLOUR CHANGES FROM YELLOW TO RED VIOLET; THE COLOUR CHANGES FROM YELLOW TO RED VIOLET. THE COLOUR CHANGE SHALL REMAIN CONSTANT FOR AT LEAST 3 MIN.

2. PROCEDURE FOR THE DETERMINATION OF IRON CONCENTRATION IN WATER SAMPLES DURING CHEMICAL CLEANING.

1. APPARATUS REQUIRED:

1. SPECTROPHOTOMETER.
2. HOT PLATE
3. VOLUMETRIC FLASKS
4. PIPETTES

2. REAGENTS REQUIRED:

1. THIOGLYCOLIC ACID (PURE GRADE)
2. AMMONIA SOLUTION (25%) AR GRADE

3. TEST METHOD:

1. PIPETTE OUT 25 ML OF THE WATER SAMPLE INTO A 50 ML CAPACITY VOLUMETRIC FLASK.
2. ADD 2 ML OF THIOGLYCOLIC ACID USING PRO-PIPETTE. MIX WELL.
3. HEAT IT TO 70 - 80 DEG C FOR ABOUT 10 MINUTES.
4. COOL IT TO ROOM TEMPERATURE AND MAKE IT UP WITH DM WATER TO THE 50 ML MARK AND MIX WELL.
5. MEASURE THE EXTINCTION OF THE SAMPLE AGAINST A BLANK USING DM WATER TREATED AS THE SAMPLE AT 532.5 NM USING SPECTROPHOTOMETER.
6. PLOT A CURVE TAKING STANDARD IRON SOLUTION AND MEASURING THE EXTINCTION IN THE SAME WAY AS THAT OF THE WATER SAMPLE.
7. READ THE IRON CONCENTRATION OF THE SAMPLE FROM THE CALIBRATION GRAPH PLOTTED.

3. ESTIMATION OF HYDRAZINE.

1. REAGENTS:

- a. STANDARD POTASSIUM BROMATE 0.1 N

DISSOLVE 2.7836 GRAM OF POTASSIUM BROMATE (KBrO_3) AND 10 GRAM OF POTASSIUM BROMIDE (KBr) IN DM / DISTILLED WATER AND MAKE UP TO 1000 ML.

- b. 0.1 % METHYL ORANGE INDICATOR SOLUTION.

- c. HYDROCHLORIC ACID (CONC.) AR.

2. PROCEEDURE:

- a) PLACE 10 ML OF SAMPLE IN A TITRATION FLASK.

- b) ADD 10 ML OF CONC. HCL.

- c) ADD ABOUT 5 DROPS OF METHYL ORANGE INDICATOR.

- d) TITRATE WITH STANDARD KBrO_3 TITRANT TO THE FIRST APPEARANCE OF YELLOW COLOUR.

PAYMENT TERMS:

- 1. 90% ON COMPLETION OF CHEMICAL CLEANING JOB WITH NECESSARY CHEMICALS.**
- 2. 10% AFTER COMPLIANCE OF STATUTORY REQUIREMENT (EPF/ESI CLEARANCE, NO DUES CERTIFICATE FROM CUSTOMER ETC).**

LOG SHEET

PROJECT : MTPS/KBUNL

DATE: / /

UNIT NO. : I

ACTIVITY : EDTA ACID CLEANING AND PASSIVATION

I. ADDITION OF CHEMICALS:

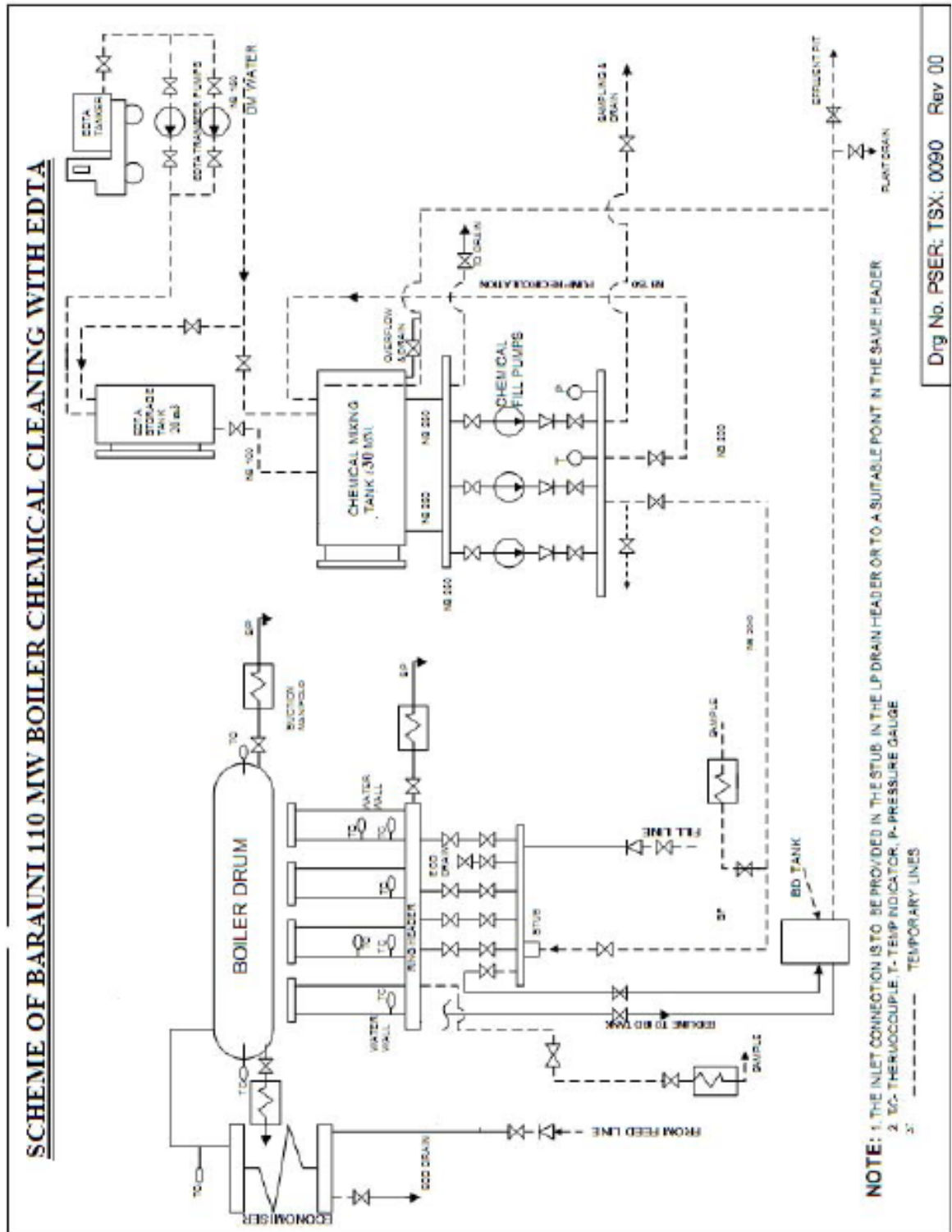
SL.No.	DATE	TIME	NAME OF CHEMICAL ADDED	QUANTITY
--------	------	------	------------------------	----------

II. ANALYTICAL DATA:

SL. No.	DATE	TIME	SAMPLE POINT	TOTAL EDTA %	IRON PPM	PH
---------	------	------	--------------	--------------	----------	----

- 1.
 - 2.
 - 3.
 - 4.
 - 5.
-

SIGNATURES.



ANNEXURE-V**BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR EASTERN REGION****KOLKATA**

PRICE SCHEDULE
-----**TENDER NO. : PSER: PUR: MZP-S063:11 DATE: 19-03-2012****WORK: "CHEMICAL CLEANING OF BOILER AT UNIT-1, 110 MW AT MUZAFFARPUR
TPS, KBUNL, MUZAFFARPUR, BIHAR."****PRICE: (TO QUOTE LUMPSUM AND FIRM PRICE ONLY IN INTERNATIONAL
NUMERALS AND ENGLISH WORDS BREAK UP NOT TO BE SHOWN UNLESS
AND OTHERWISE SPECIFICALLY ASKED FOR)**

SL NO	DESCRIPTION OF WORK	QUANTITY	LUMP SUM AND FIRM PRICE (RS) EXCLUDING SERVICE TAX
1			RS. (IN FIGURE): _____ RUPEES.(IN WORDS): _____ _____ _____
2			
	TOTAL AMOUNT : (IN FIGURE & WORDS):		

SIGNATURE OF THE TENDERER & DATE:

NAME, DESIGNATION & SEAL:



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SECTION – I

**Instructions to Tenderers
GENERAL INSTRUCTION TO TENDERERS**

1.1 Submission of Tender in “Three Parts”.

- (1) Technical Tender : All particulars asked for from the Vendor except the Price Bid & E.M.D in an envelope.
- (2) EMD in a sealed envelope clearly superscribing on the envelope “E.M.D”, the Tender Number, Name of Work, addresses of Vendor and addressee. One time EMD holders needn't enclose this provided that proof of EMD remittance is enclosed in the technical tender.
- (3) Price Bid in the price schedule enclosed in the tender, in sealed envelope, clearly superscribing “Price Bid”, Tender Number, Name of Work, Name of the Vendor and addressee.

All the above “Parts” can be placed in an sufficiently large outer envelope for submission.

1.1.1a This Tender specification as a whole, duly furnishing the following details shall be duly signed and sent in a sealed cover superscribing :

TENDER FOR _____
TENDER SPECIFICATION NO. _____
DUE ON _____

1.1.1b DURATION OF JOB

1.1.1.1 Earnest Money Deposit.

1.1.1.2 Income Tax & Sales Tax Clearance Certificate.

1.1.1.3 Detailed organisation chart for manpower resources available with the tenderer and to be employed for the present jobs.

1.1.1.4 Time to be taken for commencement and completion of Work.

1.1.1.5 A list of experience as mentioned in the tender document.

1.1.1.6 The details of the present jobs being handled.

1.1.1.7 Certificate from the BHEL's scheduled Banks to establish financial capability of the tenderer as per format enclosed at annexure-I.

1.1.1.8 Attested copies of partnership deed, power of attorney and tender specifications duly signed as mentioned in the tender documents.

1.1.1.9 Price schedule and other relevant information.

NOTE: All Xerox copies enclosed by the Vendor should be attested and sealed for authenticity.



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1.1.2 The tender shall be addressed to :

MANAGER / SENIOR MANAGER (SUBCONTRACTS)
BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR, EASTERN REGION, (2ND FLOOR),
PLOT-9/1, BLOCK-DJ, SECTOR-II, SALT LAKE,
KOLKATA – 700091.

1.1.3 Tenders submitted by post shall be sent “REGISTERED POST ACKNOWLEDGEMENT DUE” and shall be posted with the due allowance for any postal delay. The tenders received after the due date and time of opening are liable to be rejected. Telegraphic offers and offers received by telex may not be considered unless confirmed in writing by a detailed offer.

1.1.4 Tenders shall be opened by the authorised officer of BHEL at his office at the time and date as specified in the tender notice in the presence of such of those tenderers or their authorised representatives who may be present.

1.1.5 The Tenderer shall closely peruse all the clauses, specifications and drawings indicated in the Tender Documents before quoting. Should the tenderer have any doubt about the meaning of any portion of the Tender Specifications or find discrepancies or omission in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, scope of work etc., he shall at once contact the authority inviting the tender for clarification before the submission of the offer.

1.1.6 Before tendering, the tenderer is advised to inspect the site of work and the environments and be well acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour. No claim will be entertained later on the ground of lack of knowledge.

1.1.7 Tenderers must fill up all the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the Tender Specification & deceleration must be signed bearing seal and submitted along with the offers by the Tender in token of complete acceptance thereof. The information furnished shall be complete by itself. The booklet of G.S.C.C may be retained by the bidder if deceleration is enclosed along with the bid duly filled in and signed and sealed.

1.1.8 The tender shall quote the rates in English language and international numerals. The rates shall be in whole rupees. These rates shall be entered in figures as well as in words. For the purpose of the tender, the metric system of units shall be used.

1.1.9 All entries in the tender shall either be typed or be in ink. Erasures and overwriting are not permitted and may render such tenders liable to summary rejection. All cancellations and insertions shall be duly attested by the tenderer.

1.2 Qualifications of Tenderers :

Only tenderers who have previous experience in work of this nature and description detailed in this tender specification and/or registered with BHEL, PS-ER-SAS for such works are expected to quote for this work duly detailing their



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experience along with the offer. Offers from tenderers who do not have established experience in the field are not likely to be considered.

1.3 Data to be enclosed :

Full information shall be given by the tender in respect of following. Non-submission of this information may lead to rejection of the offer/tender.

1.3.1 Financial Status :

- a) A certificate from BHEL's scheduled Bank to prove his financial capacity/capability to undertakes the work of solvency certificate from the concerned Government Authority.
- b) Contractors other than those who are registered in ER, should submit their audited annual accounts for three years preceding the financial year in which tenders are called for.

1.3.2 Income Tax / Sales Tax Certificate :

A certificate of Income Tax / Sales Tax verification from the appropriate authority in the forms prescribed therefor duly indicating annual turnover. The certificates shall be valid for one year from the date of issue or for the period prescribed therein for all tenders submitted during the period.

1.3.3 Previous Experience :

A statement giving particulars duly supported by documentary evidence of the various services rendered for each similar work by the tenderer indicating the particulars and value of each work, the site location and the duration and date of completion and also a list of site locations and particulars and value of various services that are under progress.

1.3.4 Organisation Chart :

The organisation pattern that is totally available with the tenderer and that will be employed by the tenderer for this work duly indicating the number of Engineers and Supervisors, their qualification and experience in the line, the number of skilled and unskilled workmen etc.

1.3.5 An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor, shall also be attached.

1.3.6 In case of an individual :
His full name, address and place and nature of business.

1.3.7 In case of Partnership firms:
The name of all the partners and their addresses. A copy of the Partnership Deed (Instrument of partnership) duly certified by the Notary Public shall be enclosed.

1.3.8 In case of Companies:



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Date and place of registration including Date of Commencement Certificate in case of public companies (certified copies of Memorandum and Articles of Associations are also to be furnished).

- 1.3.9 Nature of business carried on by the Company and the provision of the Memorandum relating thereof.
- 1.3.10 Names and particulars including addresses of all the Directors and their previous experience.
- 1.3.11 A list of tools and tackles that the tenderer is having and those that will be earmarked for this job.
- 1.3.12 In addition to the above, the particulars required in various annexures.

EARNEST MONEY DEPOSIT:

- 1.4.1 Every tender Must be accompanied by the prescribed amount of Earnest Money Deposit in any one of the following forms:
- 1.4.1.1 CASH - The amount should be remitted by the party to the Cashier of Bharat Heavy Electricals Limited, PS-ER,Kolkata between 14.00 hours and 16.00 hours on working days and cash receipt issued by him shall be enclosed along with the tender.
- 1.4.1.2 Crossed Demand Draft OR Pay Order payable at Kolkata duly pledged in favour of Bharat Heavy Electricals Limited, Kolkata.
- 1.4.1.3 Parties who are registered as Contractors in this Region for services jobs may deposit a sum of Rs. 1,00,000/- (Rupees One lakh only), non-interest bearing, towards one time Earnest Money Deposit (OEMD) in which case they are exempted from paying E.M.D. on case to case basis. This facility can also be availed by non-registered contractors getting regular enquiries also .
- 1.4.2 Tenders received without Earnest Money in full in the manner prescribed above are liable to be rejected.
- 1.4.3 The Earnest Money Deposit of the successful tenderer will be retained towards part of Security Deposit of the due fulfilment of the Contract. However, the same may be released as soon as the Security Deposit mentioned clause 1.8 is furnished.
- 1.4.4 In the case of unsuccessful tenderers the Earnest Money will be refunded to them within a reasonable time on acceptance of award of work by the successful tenderer.
- 1.4.5 BHEL reserves the right of forfeiture of Earnest Money Deposit in case the successful tenderer.
- a) fails to start the work, as may be in the Letter of Intent.
- b) after opening of tender, revokes his tender within the validity period or increases his quoted rates.
- c) Fails to mobilise the site with required T&P and manpower within the time specified in Letter of Intent.



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1.5 Authorisation and Attestation :

1.5.1 Tenders shall be signed by persons duly authorised/empowered to do so. Certified copies of such authority and relevant documents shall be submitted along with the tenders.

1.6 Validity of Offer :

The rates in the tender shall be kept open for acceptance for a minimum period of six months from the due date of opening of tenders. If a tenderer withdraws or revokes his tender or increases the tender rates and/or conditions for any item within the aforesaid period, his Earnest Money Deposit is liable to be forfeited. In case the Bharat Heavy Electricals Limited calls for negotiations, such negotiation shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

1.7 Execution of Contract:

The successful tender's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The successful tenderer may be required to execute an agreement in the prescribed form with the BHEL within a reasonable time after the acceptance of his tender and in any case before submitting first RA bill for payment. The expenses for completing and stamping the agreement shall be borne by the tenderer.

1.8 Security Deposit :

1.8.1 Upon acceptance of tender, the successful tenderer within the time specified in the Letter of Intent must deposit the required amount towards Security Deposit before start of the work.

1.8.2 The total amount of Security Deposit shall be as follows:

a) In the case of work upto ten lakh	10%
b) In the case of work costing above Rs. 10 lakh upto Rs. 50 lakhs	Rs. 1[One] lakh plus 7.5% of the the amount exceeding Rs 10 lakhs.
c) Above Rs 50 lakhs	Rs. 4 [Four] lakh plus 5% of the the amount exceeding Rs 50 lakhs.

1.8.3 If the value of the work done at any time exceeds the accepted agreement value, the Security Deposit shall be correspondingly enhanced and the extra Security Deposit shall immediately be deposited by the contractor or recovered from payments due to him.

1.8.4 Regarding adjustment of Earnest Money Deposit towards part of Security Deposit, refer clause 1.4 above, the successful tenderer shall not commence any work under the contract before remitting the Security Deposit except as directed by BHEL.

1.8.5 Failure to deposit the Security within the stipulated time may lead to forfeiture of Earnest Money and cancellation of the award of work.

1.8.6 Security Deposit may be furnished in any one of the following forms

- i) Cash (as permissible under the Income Tax Act)
- ii) Pay Order, Demand Draft in favour of BHEL.



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- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.
(Certificates required in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act subject to a maximum of 50% of the total security deposit value. The balance 50% has to be remitted either by cash or in the other form of security. The Bank Guarantee format should have the approval of BHEL. Bank Guarantee for S.D. must be posted by the Bank by registered post direct to us, and it should not be submitted by the bidder direct to us.
- vi) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit shall be collected before start of the work and the balance 50% will be recovered from the running bills.
- viii) EMD of the successful tenderer may be converted and adjusted against the security deposit.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

1.8.7 However, the deposits should cover up to the period of warrantee also. However, if S.D. (50%) is furnished in the form of Bank Guarantee, it should be valid for atleast a period covering the scheduled duration of the job plus six months.

1.8.8 BHEL reserves the right of forfeiture of Security Deposit in addition to other claim and penalties in the event of the contractor's failure to fulfill any of the contractual obligations including statutory or in the event of termination of contract as per terms and conditions of contract.

1.8.9 Return of Security Deposit:

If the contractor duly performs and completes the contract in all respects to the entire satisfaction of BHEL, and presents an absolute "No Demand Certificate" in the prescribed form and return properties belonging to BHEL handed over, lent or hired by him for carrying out the said works the security deposit will be released to the contractor after deducting all costs or expenses or other contracts entered into with the contractor, only after the satisfactory completion or guarantee period as per clause 2.13.

1.8.10 No interest shall be payable by BHEL on Earnest Money / Security Deposit or any money due to the contractor from BHEL.

1.8.11 in no case Security Deposit can be released before settling all claims under this contract.

1.9 Rejection of Tender and other conditions:



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- 1.9.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever:
- a) to reject any or all of the tenders.
 - b) To split up the work amongst two or more tenderers.
 - c) To award the work in part.
 - d) Either of the contingencies stated in (b) and (c) to modify the time for completion suitably.
 - e) To modify the scope of work after mutual agreement.
- 1.9.2 Conditional and unwitnessed tenders:
- Tenders containing absurd or unworkable rates and amounts and tenders which are incomplete and otherwise considered defective and tenders not in accordance with the tender conditions, specifications etc. are liable to be rejected.
- 1.9.3 If a tenderer expires after his submission of the tender or after the acceptance of his tender, BHEL may at their discretion, cancel such tender. If a partner of a firm expires after the submission of the tender or after the acceptance of the tender, BHEL may cancel such tender at their discretion unless the firm retains its character.
- 1.9.4 BHEL will not be bound by any Power of Attorney granted by the tenderer or by changes in the compositions of the firm made subsequent to the execution of the contract. They may, however, recognise such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
- 1.9.5 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract, if awarded and forfeit the Earnest Money/Security Deposit.
- 1.9.6 Canvassing in any form in connection with the tenders is strictly prohibited and the tenders submitted by the contractor who resort to canvassing are liable to rejection.
- 1.9.7 Should a tenderer or contractor or in the case of a firm or Company of Contractors one or more of its Partners/shareholders/Directors have a relation or relations employed in the capacity of an officer of BHEL, the authority inviting tender shall be informed of the fact along with the offer, failing this, BHEL may at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.
- 1.9.8 The successful tenderer should not sub-contract the part or complete work detailed in this tender specification undertaken by him without permission of BHEL. The tenderer is solely responsible to BHEL for the work awarded to him. Any deviation in this regard will entail termination of such contract by BHEL at the risk and responsibility of contractor.
- 1.9.9 The successful tenderer shall inform/keep BHEL informed if he has already undertaken any work/is likely to be awarded any job with the same customer with whom BHEL is entering into contract.



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SECTION – II

GENERAL TERMS & CONDITIONS OF THE CONTRACT

2.1 Definition :

The following terms and expressions shall have the meaning hereby assigned to them except where they context otherwise requires :

- 2.1.1 'BHEL' (or B.H.E. Ltd.) shall mean Bharat Heavy Electricals Limited, a company registered under Indian Companies Act., 1956, with its Registered Office at BHEL House, SIRI FORT, NEW DELHI-110049, Power Sector, Eastern Region, Service After Sales – Services, DJ-9/1, Salt Lake, Kolkata – 700091 or its Administrative officers or its site Engineer or the employees authorised to deal with any matters with which these persons are concerned on its behalf.
- 2.1.2 "GENERAL MANAGER"/DEPUTY IN CHARGE" shall mean the Officer in Administrative charge of BHEL, PS-ER, SAS – Services, Kolkata or their other regional offices.
- 2.1.3 "ENGINEER" or "ENGINEER IN CHARGE" shall mean Engineer deputed by BHEL. The terms includes "SITE ENGINEER", "RESIDENT ENGINEER" and "ASSISTANT SITE ENGINEER" of BHEL at the site as well s the officers in-charge at Kolkata office.
- 2.1.4 "SITE" shall mean the place or places at which the plants/equipment are to be overhauled and services are to be performed as per the specification of this contract.
- 2.1.5 "CLIENTS OF BHEL" or "CUSTOMER" shall mean the Project authorities to whom BHEL is supplying the equipment/services.
- 2.1.6 "CONTRACTOR" shall mean the individual, firm or company who enters into this contract with BHEL and shall include their executors, administrators, successors and permitted assigns.
- 2.1.7 "CONTRACT" or "CONTRACT DOCUMENT" shall mean and include the agreement or work order, the accepted appendices of rates, schedule of quantities, if any and general condition of contract, the special conditioning of contract instructions of the tenderers, the drawings, the specifications, the special specification, if any, the tender specifications, the special specification, if any, the tender documents and the Letter of Intent/Accepting Letter issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or supporting letters shall not form part of the contract unless specifically accepted in writing by BHEL and incorporated in the agreement.
- 2.1.8 "GENERAL CONDITIONS OF CONTRACT" shall mean the instructions to tenderers and general conditions of contract pertaining to the work detailed.
- 2.1.9 "TENDER SPECIFICATION" shall mean the "Specific Conditions, technical specifications, appendices, site information and drawings, "pertaining to the work for which the tenderers are required to submit their offer. Also this will include the specifications detailed in NIT of client of BHEL for overhauling, erection, testing and commissioning of plant. Individual specification no. will be assigned to each tender specification.



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- 2.1.10 "TENDER DOCUMENTS" shall mean the General conditions of contract (2.1.8) and tender specification (2.1.9)
- 2.1.11 "LETTER OF INTENT" shall mean the intimation by a letter to the tenderer that the tender has been accepted in accordance with provisions contained in that letters. The responsibility of the contractor commences from the date of issue of this letter and all the terms and conditions of contract are applicable from this date.
- 2.1.12 "COMPLETION TIME" shall mean the period by date specified in the acceptance of tender for handing over the overhauled equipment/plant which are found acceptable by the engineer being of required standard and conforming to the specification of the contract or recommissioning of the machine successfully whichever is later. Completion time will be reckoned from the date of LOI with the period for mobilisation as prided with LOI, added to the same.
- 2.1.13 "PLANT" shall mean and cannot the entire assembly of the plant and equipments covered by the contract.
- 2.1.14 "EQUIPMENT" shall mean all equipments, machineries, materials, structurals, electricals and other components of the plant covered by the contract.
- 2.1.15 "TESTS" shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL, in order to ascertain the quality workmanship, performance and efficiency of the contract work or part thereof.
- 2.1.16 "APPROVED" "DIRECTED" or "INSTRUCTED" shall mean approved, directed or instructed by BHEL.
- 2.1.17 "WORK OR CONTRACT WORK" shall mean and include supply of all categories of labour, specified consumables, tools and tackles required for complete and satisfactory site transportation, handling, stacking, storing, overhauling erection, testing and commissioning of the equipment to the entire satisfaction of BHEL.
- 2.1.18 "SINGULAR AND PLURAL ETC" words carrying singular number shall also include plural and vice versa, where the context so requires, words importing the masculine gender shall be taken to include any company or Association or body of individuals, whether incorporated or not.
- 2.1.19 "HEADINGS" The Leadings in these general conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in interpretation or construction thereof or of the contract.
- 2.1.20 "MONTH" shall mean calender month.
- 2.1.21 "WRITING" shall include any manuscript, type written or printed statement under the signature or seal as the case may be.
- 2.2 Law governing the contract and Court Jurisdiction:

The contract shall be governing by the Law for the time being in force in the Republic of India. The Civil Court having ordinary original civil jurisdiction, Kolkata



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shall alone have exclusive Jurisdiction in regard to all claims in respective of this contract.

2.3 Issue of Notice :

The contractor shall furnish to the BHEL Engineer the name, designation and address of his authorised agent and all complaints, notices, communications and reference shall be deemed to have been duly given to the contractor if delivered to the contractor or his authorised agent or left at or posted to the address either of the contractor or of his representative and shall be deemed to have been so given in the case of posting on the day on which they would have reached such address in the ordinary course of post or on which they were so delivered or/ or left.

2.4 Use of Land:

No land belonging to BHEL or their customer, under temporary possession of BHEL shall be occupied by the contractor without the written permission of BHEL.

2.5 Commencement of Work:

2.5.1 The contractor shall commence the work within the time indicated in the Letter of Intent from BHEL and shall proceed with the same with due expedition without delay. For computing the scheduled completion date, commencement, of work will be reckoned from the date of complete mobilisation as per LOI, unless specifically amended by Head (Services), BHEL, Kolkata.

2.5.2 If the successful tenderer fails to start the work within the stipulated time, BHEL as its discretion will have the right to cancel the contract. His Earnest Money and / or Security Deposit with BHEL will stand forfeited without any further reference to him, without prejudice to any and all of BHEL's other rights and remedies in this regard.

2.5.3 All the works shall be carried out under the direction and to the satisfaction of BHEL.

2.5.4 The erected overhauled plant or work performed under the contract shall be taken over when it has been completed in all respects and or satisfactorily put into operation at site.

2.6 Mode of payment and measurement of the work completed.

2.6.1 "All payment due to the contractor shall be paid only by Account payee Cheques"

2.6.2 The contractor shall present his bill on the format prescribed by BHEL for every payment. After verification of such bills by BHEL, all items having financial value shall be entered and certified in BHEL Measurement Book by BHEL Engineer and the bills prepared based on the same and connected technical documents which form part of this tender specification.

2.6.3 Lumpsum omission will be entered for deduction. Measurement shall be restricted to that for which it is required to ascertain the financial liability of BHEL under this Contract.



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- 2.6.4 Work which is to be measured in details shall be measured as per standard procedure without reference to any local procedures without reference to any local procedures excepting where it is otherwise stated in the tender documents. The measurement shall be taken jointly by person duly authorised on the part of BHEL and by the contractor.
- 2.6.5 If, at any time due to reason whatsoever, it becomes necessary to remeasure the work done in full or in part, the expenses towards such remeasurement shall be borne by the contractor.
- 2.6.6.1 The contractor shall bear the expenditure involved, if any, in making the measurement. The Contractor shall, without extra charges, provide all the assistance with appliances with appliance and other things necessary for measurement.
- 2.6.7 The measurement entered in the Measurement Books and the bills prepared shall be signed and dated by both the contracting parties.
- 2.6.8 The Contractor will be intimated in writing by the site Engineer, the proposed date of measurement. If the contractor, representative fails to participate in the joint measurement, the BHEL engineer shall have the power to proceed by himself to take measurement in which case the measurement shall be accepted by the contractor as final.
- 2.6.9 Passing of measurement as per bills does not amount to acceptance of the completion of work mentioned. Any left out work has to be completed if pointed out at a later dated by BHEL.
- 2.7 Right of BHEL :
- BHEL reserves the following rights in respect of contract without entitling the contractor for any compensation.
- 2.7.1 To get the work done through other agency at the risk and cost of the contractors poor progress, or inability to progress the work for completion as stipulated in contract, poor quality of the work etc., and to recover compensation for such losses from the contractor including BHEL's supervision charges and overheads from security deposit other use.
- 2.7.2 To withdraw any portion of work and/or to restrict / alter the quantum of work as indicated in the contract during the progress of work and get it done through other agency and/or by departmental labour to suit BHEL's commitment to its customer or in case BHEL decides to advance the date of completion due to other emergency reasons / BHEL's obligation to its customer.
- 2.7.3 To terminate the contract after due notice and forfeit Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages in the events of :
- 2.7.3.1 Contractor's continued poor progress brought to his notice from time to time .
- 2.7.3.2 With draws from or abandonment of the work before completion of work.
- 2.7.3.3 Corrupt act of Contractor.



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2.7.3.4 Insolvency of the Contractor.

2.7.3.5 Persistent disregard to the instruction in writing of BHEL.

2.7.3.6 Assignment, transfer, sub-letting of the contract without BHEL's written permission.

2.7.3.7 Non fulfilment of any contractual obligations :

Any delay in works for reasons attributable to the contractor will have to be compensated by either increasing manpower and resources or by working extra hours and more than one shift without any extra cost.

2.7.4 To recover any money due from the contractor, from any money due to the contractor under this contract or any other contract or from the Security Deposit.

2.7.4.1 The term 'any other contract' will also include any contract entered with the contractor by any other unit division of BHEL, in addition to the ones awarded by BHEL, PSER, Kolkata.

2.7.5 To claim compensation for losses sustained including BHEL's supervision charges and overheads in completion, on termination of contract, to impose penalty for delay in completion of the work, at the rate of 0.5% (half percent) of the Contract value per day of delay or part thereof subject to a ceiling of 10% of the contract value.

2.7.6 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customers are terminated for any reason.

2.7.7 To effect recovery from any amounts due to the Contractor under this or any other contract etc. in any other form, the money BHEL, is forced to pay to any body, due to contractor's failure to fulfil any of his obligations.

2.7.8 While every endeavour will be made by BHEL they cannot guarantee uninterrupted work due to conditions beyond their control. Contractor will not be entitled to any compensation / extra payment on this account.

2.7.9 In the event of any dispute of any nature, the decision of BHEL shall be final and binding on the contractor.

2.8 Responsibilities of the Contractor :

The following are the responsibilities of the contractor in respect of observation of local laws, employment of personnel, payment of taxes and execution of job etc.

2.8.1 As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.

2.8.2 The Contractor at all times during the continuance of this contract, shall in all his dealing with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.

2.8.3 The contractor shall comply with all state and central Laws, Statutory Rules, Regulations etc., such as :

The payment of wages Act, Minimum Wage Act, Workmen compensation Act, Employers Liability Act, Industrial Disputes Act, Employees Provident Fund Scheme,



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Employees Insurance Scheme, Contract Labour (Regulation & Abolition) Act 1970 and other Acts, Rules & Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The Contractor shall give to the local Governing Body, Police and other relevant authorities all such notices as may be required by law.

- 2.8.4 The Contractor shall pay all taxes, fees, licence charges, deposits duties, tools, royalty, commission or other charges which may be leviable on account of any 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 the contractor either from his bills or otherwise as deemed fit.
- 2.8.5 The Contractor shall be responsible for provision of health and sanitary arrangements, more particularly described in contract Labour (Regulation & Abolition Act) safety precautions etc., as may be required of same and satisfactory execution of the contract.
- 2.8.6 The contractor shall fulfil all his obligation in respect of accommodation including proper medical facilities for the personnel employed by him.
- 2.8.7 The contractor shall be responsible for the proper behaviour at site and observance of all regulations by the staff employed by him.
- 2.8.8 The Contractor shall ensure that no damage is caused to any person / property of other parties working at site. If any such damages is caused, it is the responsibility of the contractor to make the losses or compensate for the same.
- 2.8.9 All the properties / equipments / components of BHEL / their client loaned with or without deposit to the contractor in connection with the contract shall remain the properties of BHEL / their client. The Contractor shall use such properties for the purpose of execution of this contract. All such properties / equipment / components shall be deemed to be in good condition when received by the contractor unless he notified within 48 hours to the contrary. The Contractor shall return them in good conditions as and when required by BHEL / their client. In case of non-return, loss damage, repairs, etc. the cost thereof, as may be fixed by the site Engineer, will be recovered from the contractor.
- 2.8.10 It is not obligatory on the part of BHEL to supply any tools and tackles or other materials other than those specifically agreed to do so by BHEL. However, depending upon the availability / possibility BHEL's customers' handling equipment and other plants may be made available to the contractor on payment of the hire charges / free of charges as fixed, subject to the condition laid down by BHEL. Customer form time to time, Unless paid in advance, such hire charges if applicable shall be recovered from contractor's bill / security Deposit in one instalment.
- 2.8.11 The contractor shall not claim any compensation of the scope of the work, due to changes in design which curtails quantum.
- 2.8.12 The Contractor shall fully indemnify BHEL against all claims of whatsoever nature arising during the course of erection / overhauling / performing work under the contract.



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- 2.8.13 In case the contractor is required to undertake any major work outside the scope of this contract the rates payable shall be decided by BHEL Resident Engineer.
- 2.8.14 The contractor shall keep the area of work clean and shall remove debris etc., while executing day to day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places to be specified by the BHEL Engineer. The contractor will also demolish all hutments, sheds, partitions, offices, constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be removed by the BHEL. The expenses thereof will be recovered from contractor.
- 2.8.15 The contractor shall arrange and co-ordinate his work in such a manner as to cause no inconvenience to other agencies working in the area.
- 2.8.16 All safety rules and codes applied by the client / BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment / material and work to be performed by him and shall maintain all light, fencing guards, signs etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards and atmospheric conditions. Suitable number of electrical staff, watch and ward, store keepers to take care of the equipment, materials and construction tools and tackles, shall be posted at site by the contractor till completion of the work under this contract. The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite tests of handling equipment, lifting tools, tackles etc, as per prescribed standards and practices.
- 2.8.17 The contractor will be directly responsible for payment of wages to his workmen. A pay roll sheet giving all the payments given to workers and duly signed by the contractor's representative should be furnished to BHEL site office for record purpose. BHEL site In-charge may be intimated the date of disbursement of wages to the workmen engaged for the work, so that his representative can witness the same.
- 2.8.18 The intent of specification, is to provide services according to most modern and proven techniques and codes. The omission of specific reference to any method, requirement or material necessary for the proper and efficient performance of work shall not relieve the contractor of the responsibility of providing such facilities to complete the work.
- 2.8.19 In case of any clause of the work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the BHEL Engineer.
- 2.8.20 No levy or payment or charge made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied or demanded or charged.
- 2.8.21 The details drawings, specifications, instructions manual, if any available with the BHEL Engineer will form part of tender specification . These documents will be made available for reference only to the contractor during execution of work.
- 2.8.22 Should any error or ambiguity be discovered in the specification or information, the contractor shall forthwith bring the same to the notice of BHEL before



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commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.

- 2.8.23 No idle labour charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour being rendered idle due to any cause of any type.
- 2.8.24 No over run charges shall be paid in the event of the completion period being extended for any reason whatsoever.
- 2.8.25 It is possible that some repair/rectification, modification may be needed on the equipments to be overhauled / work to be performed under this specification, for reasons not attributions to the contractor . All such repair / rectification / modification work which can be done, with the available facilities at site shall be carried out by the contractor free of cost and no extra charger shall be paid to contractor.
- 2.8.26 The quality and progress of work will be regularly reviewed. The schedule and progress of work will be given to the contractor in advance and it will be the obligation / responsibility of the contractor to achieve the desired quality and progress of work by suitably reinforcing their labour force and/or by working extra hours or in more then one shift without any extra cost. Workmen found unsuitable for the work will be replaced immediately by the contractor on being informed by BHEL.
- 2.8.27 During the overhauling work under the contract it is very essential that proper and adequate inspection should made constantly to maintain the quality or workmanship so that any deviation from design dimension does not exceed permissible limits. The proper functioning of the unit, while in operation, depends to a great extent on the above factors. The fact that effective supervision and inspection at the execution stage is less costly than any down time of running unit even for a short period need not be over emphasized. For the details regarding alignment and permissible dimensional deviations in the sub-assemblies BHEL Engineer may be consulted.
- 2.8.28 The contractor shall be furnish fortnightly labour report showing by classification of number of employees engaged in various categories or work date wise and submit a progress report of wok as required by BHEL Engineer.
- 2.8.29 The contractor shall execute the work in the most substantial and workmen-like manner in stipulated time. Accuracy of work and timely execution are the essence of this contract. The contractor shall be responsible to ensure that the assembly and workmanship conform to the dimensions and clearances given in the drawings and/or as per instructions of BHEL Engineers.
- 2.8.30 The contractor shall take all responsible care to protect the materials and work till such time the plant/equipment has been taken over by BHEL / their client. Where necessary, suitable temporary fencing and lighting shall have to be provided by the contractor as a safety measure against accident and damage of property of BHEL. Suitable caution notice shall be displayed where access to any part may be deemed to be unsafe and hazardous.
- 2.8.31 It will be the responsibility of the contractor to ensure safe lifting of the equipments taking due precautions to avoid any accidents and damage to other equipments and personnel.
- 2.9 Consequence of cancellation :



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Whenever BHEL exercises its authority to terminate the contract/withdrew a portion of work under the clause 2.7 they may complete the work by any means at the contractor's risk and expenses provided that in the event of the cost of completion (as certified by the site Engineer which is final and conclusive) being less than the contract cost, the advantage shall accrue to BHEL and that if the cost of completion exceeds the money due to the contractor under the contract, the contractor shall either pay the excess amount ordered by BHEL or the same shall be recovered from the contractor by any other means. This will be in addition to the forfeiture of Security Deposit and recovery of liquidated damages as per relevant clauses.

2.9.1 In case BHEL completes the work under the provision of this condition, the cost of such completion to be taken into account in determining the excess cost to be charged to the contractor under this condition, shall consist of materials purchased and / or labour, provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.

2.10 Insurance :

2.10.1 BHEL / their customer shall arrange for insuring the materials / properties of BHEL/customer covering risks during transit, storage, overhauling, erection and commissioning.

2.10.2 It is the sole responsibility of the contractor to Insure his workman against accident and injury while at work as required by relevant rules and to pay compensation, if any, to workmen as per workmen's compensation Act. Contractor shall insure his staff against accidents. The work will be carried out in a protected area and all the rules and regulations of the client / BHEL in the area of project which are in force from time to time, will have to be followed by the contractor.

2.10.3 If due to negligence and /or non-observations of safety and other precautions, any accident / injury occurs to any other person/public, the Contractor shall have to pay necessary compensation and other expenses, if so decided by the appropriate authorities. Third party insurance coverage is to be made by the contractor.

2.10.4 If due to contractor's carelessness, negligence or non-observance of safety precautions damage to BHEL's /Customer's property and personnel should occur, and if BHEL is unable to recover, in full, cost from the Insurance Company, the balance will be recovered from the Contractor.

2.11 Strikes & Lockouts :

The contractor will be fully responsible for all the disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the lockout declared is not settled within a period of one week BHEL shall have the right to get the work executed employing the own labour or through any other agencies or both and the cost so incurred by BHEL, shall be deducted from the contractor's bills as per clause 2.7. For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

2.12. Force Majeure :

2.12.1 The following shall amount to Force Majeure :



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Acts of God, Acts of any Government, war, sabotage, riots, civil commotion, police action, revolution, flood, fire, cyclones, earthquake and epidemic and other similar causes over which the contractor has no control.

2.12.2 If the contractor suffers delay in the due execution of the contractual obligation due to delays caused by Force Majeure as defined above, the agreed time of completion of the job covered by this contract or the obligations of the Contractor shall be extended by a period of time equal to the period of delay provided that on the occurrence of any such contingency the Contractor immediately reports to BHEL in writing the causes of delay and the contractor shall not be eligible for any compensation.

2.13 Performance Guarantee :

Even though the work will be carried out under supervision of BHEL Engineers. The contractor shall guarantee against defects attributable to faulty workmanship or procedure adopted in the overhaul for items covered in the contract for a period of six months from the date of re-commissioning of the set after the capital overhaul. The guarantee should cover all defects notified during this period and shall have to be attended to free of cost immediately or at the time our clients are able to give shut down of the set for the required period. when necessary. In case of failure of contractor to attend to such defects as and when required in time, BHEL shall arrange to attend the defects and the charges shall be levied to contractor's account and shall be recoverable from the security deposit / progressive payments.

2.13. Arbitration :

All disputes between the parties to the contract arising out of or in relation to the contract, other than those for which the decisions of the Engineer or of any other person is by the contract expressed to be final and conclusive, shall, after written notice by either party to the contract to other party be referred to sole arbitration of General Manager or his nominee. The arbitration shall be conducted in accordance with the provision of the Indian Arbitration Act, 1996.

The parties to the contract understand and agree that if will be no objection that the General Manager or the person nominated as arbitrator, had earlier in his official capacity to deal directly or indirectly with the matters of which the contract relates or that in the course of his official duties had expressed views on all or any of the matters in dispute of difference. The award of the arbitrator shall be final and binding on the parties to this contract.

In the event of the arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason or his award being set aside by the court for any reason, it shall be lawful for the GM or his successor, as the case may be, either to act himself as the Arbitrator or to appoint another arbitrator in place of the outgoing arbitrator in the matter aforesaid.

The arbitrator may from time to time with the consent of both the parties to the contract enlarge the time for making the award.

Work under the contract shall be continued during the arbitration proceedings. The venue of the arbitration shall be the place from which the contract is issued or such other place as the arbitrator at his discretion may determine.



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**SECTION – III
SPECIAL CONDITIONS OR CONTRACT**

3.1 Quantum of Work :

3.1.1 The scope of work given in the tender specification is only approximate and is liable to variation and alternation at the discretion of BHEL Resident Engineer. No compensation on this account shall be payable to the contractor unless specifically recommended by BHEL Resident Engineer as the variation forming major additions to the original scope of work. All repair / rectification work arising out of normal wear and tear, seizure of parts etc. have to be done by the contractor and the same will be covered by the scope of work of the contract.

3.1.2 The scope of work details out the major activities only. However, as per the general maintenance requirement and site condition, certain related activities may have to be carried out without any extra cost.

3.2 Commencement and completion of work :

3.2.1 The starting time and completion time is the essence of the of the tender. As the time bound programme is firmly committed to customer, the starting time and completion time should be strictly adhered to. It will be not be possible to grant extension in completion time except in extraordinary circumstance, which will be decided entirely at the discretion of BHEL Resident Engineer. Work should normally be carried out in two shifts and sometimes also in three shifts in consultation with BHEL Resident Engineer.

A detailed programme of the various activities covered under this contract with specific time period to fall in the overall frame work of the above dates should be prepared and got approved by BHEL Resident Engineer. The progress against this programme shall be reviewed with BHEL Resident Engineer at the end of each day and critical areas identified and suitable steps taken in time.

If during the review, at any stage of overhauling, BHEL Resident Engineer feels that the delays are not likely to be made up, BHEL reserves the right to take corrective steps as considered necessary by BHEL Resident Engineer to complete work in scheduled time and debit the cost incurred thereon to the contractor. This does not however absolve the contractor of his own efforts in consultation with BHEL Resident Engineer. Every endeavour will be made to see that work proceeds uninterruptedly.

3.2.2 The tenderers should indicate the time required for starting the work once the letter of intent is issued and the time required for completion. The work may have to commence immediately after opening of the tenders. Hence, preference may be given to those tenderers who can commence the work earlier, and also ensure early completion.

3.2.3 The Contractor shall ensure completion of the job in all respects within the day from the date of commencement of work as given in contract.

3.3 Penalty for delay :



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- 3.3.1 In the event of failure to complete the work in given time, an amount equal to ½% [half percent] of the contract value per day subject to a maximum of 10% [ten percent] of the contract value will be levied as penalty, in case the balance work is allowed to be completed by the contractor beyond the scheduled time of completion, which is at the discretion of BHEL. In case of delays on contractor's part, at any stage during the scheduled period or after, BHEL shall have the option of ensuring completion of the job by any other means at its disposal and the charges on this account shall be levied on the contractor. These shall be adjusted against contractor's bills or Security Deposit.
- 3.4 Terms of Payment :
- A minimum time of 15 days will be required for processing the bills and release of payment after the bills are presented to BHEL.
- 3.4.1 Payment will be made up to a total 90% against three progressive bills, or 30% each submitted by the contractor in quadruplicate mentioning the activities completed, based on measurement of work done as per the % break up indicated in the scope of work. The bills will be verified by BHEL site Engineer and certified by BHEL Resident Engineer to ensure payment. Balance 10% shall be payable after successful commissioning.
- All payments are subjects to income tax deductions @1% of the bill amount at source or as per Central Government Laws. No request for advance payment will be entertained by BH
- 3.5 Inspection and Completion :
- The work being carried out by the contractor will be supervised and inspected by our Site Engineers under the overall supervision of BHEL Resident Engineer.
- 3.6 The work will be deemed as complete when it is finally accepted by BHEL Resident Engineer and job completion certificate is issued. No extra payment will be made for any rework carried out by the contractor to rectify any defective work.
- 3.6 The contractor shall not be entitled for labour idling charges under any circumstances.
- 3.6 Tools, Tackles, Test Equipments & Consumables :
- 3.6.1 All tools and tackles and consumables required for day-to-day work like gas and gas cutting sets with accessories, AC/DC welding sets, TIG welding kits, welding cables, electrodes, all necessary power connection at his own cost. However, in case of emergency, BHEL may supply certain items if available, to contractor at actual cost plus handling charges, These will be deducted from contractors' running bills, testing equipment for conducting various tests, during the progress of overhauling / re-commissioning shall have to be provided by the contractor. Spare parts going into permanent installation shall only be provided by BHEL.
- 3.7 Accommodation for site staff and store space :
- 3.7.1 Contractor has to arrange for the stores and office at site ; space for the same shall be made available as per the availability at site. The contractor shall be responsible to provide all necessary facilities like residential accommodation with sanitary facilities, transport, electricity, water, medical bonus etc. as required under various labour laws



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and statutory rules and regulations framed thereunder to the personnel employed by him.

3.8 Responsibilities of the contractor :

3.9 Supervisory staff and labour :

The contractor shall employ, specially skilled labour, supervisor and engineers thoroughly conversant with particular type of work to ensure quality work. BHEL reserves the right to decide on the suitability of the workers and other staff employed by the contractor. BHEL reserves the right to insist on removal of any employees of the contractor at any time if they find him unsuitable and the contractor should forthwith remove him.

3.9 Planning and Execution :

Contractor shall submit a job planning in form of Bar Chart or PERT Chart. A List of manpower category wise, indicating individuals responsibility job activity wise , shall have to be submitted. Daily programme of job shall be displayed on board near work site on day in advance. A daily progress report along with Manpower utilities has to be submitted and backlog of the work, if any, shall be covered up in consultation with BHEL Resident Engineer.

3.9 Safety and Accident Coverage

Contractor shall ensure safety of all his employees at site of work. All employees shall be covered by insurance (workmen compensation) against accident, failing which proper action will be taken against the contractor.

Contractor shall ensure proper safety of the equipments under overhauling by deputing personnel to guard the equipments round the clock. Open oil spaces, steam spaces shall be covered properly against ingress of foreign materials while working.

RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF SAFETY OF MAN, EQUIPMENT, MATERIAL AND ENVIRONMENT

3.8.3.1 Before commencing the work, contractor shall submit a 'SAFETY PLAN" to the authorised BHEL official. The 'Safety Plan' shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified here under. The contractor shall submit safety plan along with his offer. During negotiations before placing or work order and during execution of the contract, BHEL shall have right to review and suggest modifications in the safety Plan. Contractor shall abide by BHEL decision in this respect.

3.8.3.2 The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or it's authorised officials to prevent loss of human lives, injuries to personnel engaged, and damage to property and environment.

3.8.3.3 The contractor shall provide to it's work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorised BHEL officials :



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- a. Safety Helmets conforming to IS-2925 : 1984
- b. Safety Belts conforming to IS – 3521 : 1983
- c. Safety shoes conforming to IS-1989 : 1978
- d. Eye & Face Protection devices conforming to IS-8520 : 1987 and IS-8940 : 1978
- e. Hand & body protection devices conforming to :
 - IS – 2573 : 1975
 - IS – 6994 : 1973
 - IS – 8807 : 1973
 - IS – 8513 : 1977

- 3.8.3.4 All tools tackles, lifting appliances, material handling equipment scaffolds, cradles, safety nets, ladders, equipment etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorised BHEL official who shall have the right to ban the use of any item.
- 3.8.3.5 All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act & Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliance including portable electrical tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed..
- 3.8.3.6 The contractor shall not use any hand – lamp energised by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source not more than 24 volts.
- 3.8.3.7 The contractor shall adopt all fire safety measures as laid down in the “Code for Fire Safety at Construction Sites’ issued by the safety Department of the Construction Management (HQ) of BHEL and as per directions of the authorised BHEL official. A copy of the above referred “Code for Fire Safety at Construction Sites” shall be made available by BHEL to the contractor for reference, on demand by the contractor, during tendering stage itself.
- 3.8.3.8 Where it become necessary to provide and / or store petroleum products, explosives, chemicals, and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and / or storage in accordance with the rules and regulations laid down in the relevant government acts, such as Petroleum Act, Explosives Act, Petroleum & Carbides of Calcium Manual of the Chief Controller of Explosives, Govt. of India, etc. Prior approval of the authorised BHEL official at the site shall also be taken by the contractor in all such matters.
- 3.8.3.9 The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working, when natural daylight may not be adequate for clear visibility.
- 3.8.3.10 The contractor shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instructions, that may endanger safety of men, equipment, material and environment in his scope of work or another contractor’s or agency’s Cost of damage if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.



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- 3.8.3.11 In case of a fatal or disabling injury, accident to any person at construction site due to lapses by the contractor, the victim and / or his / her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and / or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.
- 3.8.3.12 In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover cost of such damages from payments due to the contractor after holding an appropriate enquiry.
- 3.8.3.13 In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have right to recover cost of such delay from payments due to the contractor, after notifying the contractor suitably and giving him opportunity to present his case.
- 3.8.3.14 If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so, and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorised BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
- 3.8.3.15 The contractor shall submit report of the accidents, fires and property damage, dangerous occurrences, to the authorised BHEL official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, periodic reports on safety shall also be submitted by the contractor to the authorised BHEL official from time to time as prescribed.
- 3.8.3.16 Before commencing the work, the contractor shall appoint / nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
- 3.8.3.17 If safety record of the contractor in execution of the awarded job is to the satisfaction of safety Department of BHEL, issue of an appropriate certificate to recognise the safety performance of the contractor may be considered by BHEL after completion of the jobs.
- 3.9 House keeping and preservation :
- 3.9 Work floor/area shall be cleaned every day and be kept absolutely clean. A regular cleaning gang may be engaged for the purpose.

All dismantled components of the equipments under overhauling should be tag marked and stored properly according to type of components, namely all loose/small parts shall be kept in boxes bearing and matching components shall be kept on wooden planks. A list of such components shall be maintained to identify / locate be preserved properly against probable damages.



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No floor shall be damaged while working and necessary steps shall be taken by the contractor for repair in case of any damage.

3.9 Tools stores and Consumables :

Tools & tackles, other than special tools and tackles supplied along with the equipments, shall be arranged and kept properly by the contractor. A register must be maintained and updated regularly.

All consumables, other than those going permanently into the equipment, shall be stored by the contractor for daily use. Regular check shall be made at end of each day's work and exhausted consumables shall be replenished immediately.

The store may be visited by BHEL Engineers without notice for verification.

3.9 The contractor shall make all necessary arrangement to receive spares from BHEL/Customer's stores , as and when required. The unused and scrap materials shall be returned to BHEL / Customer's stores on completion of the work.

A detailed account shall be submitted by the contractor to this effect at the end of the work certifying no dues remained against them duly signed by Resident Engineer BHEL/Customer.

3.9 General :

3.9.1 Standard printed conditions if enclosed with the offer by the tenderers will not be accepted and only those in main body of the offer will be considered for acceptance.

3.9.2 The tenders are likely to be rejected if the tendered is not acceptable to the ultimate customer.

3.9.3 It will be the responsibility of the contractor to carry out trial run of all the equipments overhauled and confirm the satisfactory operation of equipment. The contractor's personnel shall also be present at time of final commissioning and attend to any defects that shall occur during this time.



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Annexure – V

A) TENDERING

1. Tenders may be submitted through Registered post with acknowledgement due, in the name of the addressee only indicated, or by hand delivery or by courier service obtaining acknowledgements of receipt. Telegraphic / Telex offers received in time can be considered, if only followed by acceptable written tender documents in accordance with the telex / telegram and does not result in any advantage over other tenderers because of any possible manipulation in price or date of completion etc.
2. Each and every page of tender documents from declaration of bidders to Annexure VI enclosed should be signed by the tenderer providing his / their seal and date as taken of their full acceptance of the scope of work, terms and conditions etc., and should be returned alongwith the tender offers.
3. The tenders should be quoted in English language and international numbers.
4. All entries in the tender shall be typed in ink legibly written without ambiguity.
5. Qualifications of Tenderers : for open tenders only, the tenderers who have previous experience in the similar nature of work as detailed in this tender specifications are expected to quote duly detailing their relevant experience / credentials along with the offer. Offers of other than the above are not likely to be considered. (List of similar jobs done)
- Enclosure – 1
6. Financial Status : A current / valid certificate from a scheduled bank to provide the financial soundness / capability of the bidder to undertake the work, is required to be submitted alongwith offer.
- Enclosure – 2
7. Income Tax / Sales Tax certificates : A certificate of income tax / sales tax clearance from the appropriate authority, is to be submitted in the form prescribed therefor, valid for the period of contract.
- Enclosure - 3
8. Organization Chart : The organization pattern and that will be deployed by the tenderer for this work duly indicating the number of supervisors, their qualifications and experience in the line, the number of skilled and unskilled persons / etc. is required to be indicated in the offer.
- Enclosure – 4
9. THE FOLLOWING DOCUMENTS SHOULD ALSO BE ENCLOSED.
 - a) An attested copy of the power of attorney in case the tender is signed by an individual other than the sole proprietor.
 - b) In case of an individual his full name, address, nature of business and valid trade licence.



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- c) In case of partnership firm, the names of all partners and their addresses. (A copy of the partnership deed / instrument of partnership, duly attested by the Notary public shall be enclosed.)
- d) In case of companies, date and place of incorporation / registration including date of commencement certificate (for public companies). (Certified copies of Memorandum and articles of association are also to be furnished).

B) EARNEST MONEY DEPOSIT :

For this, please refer article 1.4 (page 4 of 23) of the General and special conditions of contract – 1991 (GSCC) enclosed / supplied with the form issued for empanelment.

C) VALIDITY OF OFFER :

The rates in the tender shall be kept open for acceptance for a minimum period of six months from the due date of opening of tenders. For details, please refer article 1.6 (page 7) of GSCC enclosed.

D) SECURITY DEPOSIT :

The total amount of Security Deposit shall be as follows:

a) In the case of work upto ten lakh	10%
b) In the case of work costing above Rs. 10[ten] lakh upto Rs. 50 lakhs	Rs. 1[One] lakh plus 7.5% of the the amount exceeding Rs 10 lakhs.
c) Above Rs 50[fifty] lakhs	Rs. 4 [Four] lakh plus 5% of the the amount exceeding Rs 50 lakhs.

For details, please refer article 1.8 (page 5 of 23) of GSCC enclosed.

Further it may be noted that no interest shall be payable by BHEL on EMD / SD or any other money due to the contractor from enclosed.

E) ACCEPTANCE / REJECTION OF TENDERS :

For this, please refer article 1.9 (pages 6 to 10) of GSCC enclosed. Also acceptance of customer is pre-requisite for consideration of bid, wherever applicable.

F) ADDITIONAL SPECIFIC TERMS AND CONDITIONS :

01. EXECUTION.

- i) If the site in question is subjected to industrial relations unrest / disturbances / problems, then the successful bidder should take adequate precautionary measures against dislocation of the job on account short problems. Any liability on this account, lies entirely with the contractor.



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- ii) The contractor shall commence the work at site with full manpower, T&P etc. and complete as specified in the particulars of the tender. In case of any delay on the completion of work attributable to the contractor BHEL reserves full rights to cancel the contract fully or partly and to award the job in full or part to an alternate agency and recover the costs towards the same including BHEL's overheads from the contractor.
- iii) In the event of termination of contract or restriction of quantum of job by our client, before or during the execution of contract, BHEL reserves the right to terminate the contract or restrict the quantum of work of sub-contractors accordingly without paying any compensation.
- iv) Manpower : For various category of manpower and their numbers recommended, please refer to the Annexure IV of the tender enquiry.
The contractor shall engage proper skilled / qualified personnel and ensure the expected quality of work. If any of their personnel has been found to be unsuitable, by BHEL / or their client, the contractor shall withdraw them and provide suitable replacement immediately, failing which BHEL reserves full rights to get the job done by alternate suitable persons at risk and cost of the contractor. The delay on this account is attributable to the contractor.
- v) **TOOLS (TACKLES & PLANTS)** : All tools, tackles and plants including precision measuring instruments, lifting devices shall have to be arranged by the contractor. (List of recommended T&P, for guidance, is provided in Annexure II of the tender enquiry). All lifting tackles and pulling devices to be used must bear valid / latest test certificates for their suitability, and the sales tax furnished along with the offer itself.

Also certificates of test / calibration with date of validity for various measuring / test instruments have to be submitted by the tenderer preferably along with the offer itself, or else the same is required to be produced at site before start of job failing which the LOI / W.O. is liable to be cancelled without any compensation.

Successful bidder shall provide valid calibration certificates for IMTEs, fitness certificates for T&Ps and Construction Equipment (e.g. wire ropes, hand operated chain pulley blocks, pulling and lifting machines, electric welding generators, arc welding transformers etc.). Calibration of IMTEs is to be arranged from the accredited agencies. Calibration certificates should have the traceability as per national/international standards. At work site the IMTEs, T&Ps and Construction Equipment shall be checked/tested/inspected by BHEL engineers. The procedure for fitness testing and storage preservation and maintenance of Construction Equipment and T&Ps shall be as per Doc. Nos. PSER:FEX:001:94, PSER:SAS(CAL):016:95 and PSER:FEX:002:94 available with BHEL site engineers.

- vi) **CONSUMABLES** : All consumables required (list for guidance is given in Annexure III of the tender enquiry) for the job shall be arranged by the contractor



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at his cost. However, any spares / components / consumables / materials going permanently into the clients equipment shall be provided to the contractor.

- vii) Successful bidder has to arrange proper storing facilities at site with traceabilities for IMTEs, T&Ps, construction equipments and consumables used during job execution.
- viii) All the T&Ps, consumables etc. must be mobilized at site at least three days prior to actual start of the job. They must be in accordance with those recommended in the Annexure – II and III respectively of the Tender Enquiry and must be got verified to that effect. Formal clearance in writing must be obtained from BHEL's resident engineer before the contractor starts the job.

T&P found defective / improper / insufficient or not having valid test / calibration certificate should be made good immediately.

If the contractor fails to mobilize at least 90% of the recommended T&P and manpower within the stipulated period, the order on the contractor is liable to be cancelled without paying any compensation on to him.

- viii) **Storage** : The contractor shall be responsible for proper storing of all dismantled components, spares, T&P etc., identify them properly and preserve them throughout the execution of the job. Any loss or damage of the components caused due to the lapses attributable to the contractor or his personnel, shall be chargeable to the contractor.
- ix) Transportation of Spares / materials / consumables :

Any material / components / spares required for the work must be collected by the vendor and carried safely to the work site from the point of issue in our clients premises, through his own resources and cost.

Similarly, excess materials / spares etc. must be returned to the client's stores / any other place, within the client's premises, indicated by site-in-charge of BHEL.

Any debris, rubbish at the work spot must be cleared very day by the contractor using his own resources and cost, and disposed off at a placement for, as to be informed to him.

- x) Space / Accommodation :

The contractor will be allowed to have his site office, stores etc. by erecting temporary partitions / chambers / sheds etc. at the work spot according to the availability of space, which will have to be vacated and dismantled at the end of the jobs to restore the space to the client. The contractor should make his own arrangements for the security / watch and ward.



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No residential accommodation / spare can be provided by BHEL to the contractor for any residential accommodation of his personnel. Contractor has to make arrangements/accommodation at site at his cost.

- xi) The contractor shall ensure responsible execution of the job and proper behavior of their personnel and observance of all the rules and regulations of our clients.
 - xii) **Safety** :
 - a) Standard safety norms/ regulations shall be conserved by the contractor during the execution of the job. The contractor should provide the necessary / stipulated safety devices to his personnel deputed to the site, such as grinding / welding goggles, masks, safety belts, helmets etc. No worker will be permitted to work without necessary safety appliances. Delay of work due to work without necessary safety appliances. Delay of work due to these lapses are attributable to the contractor.
 - b) All norms related to Health, Safety & Environmental (HSE) norms conforming to ISO-14001 & OHSAS-18001 shall be followed by successful bidder. Bidders may contact SAS-PSER office for getting detailed norms to be followed by bidder at Site
 - c) The contractor shall comprehensively insure all his site personnel against any hazard / accident and submit a copy of the insurance certificate covering all his site personnel to our resident engineer before commencement of work.
 - d) In case of any accident / hazard, the contractor shall arrange for medical attendance immediately shall compensate the personnel concerned in accordance with the workmen's compensations act in force and shall keep BHEL indemnified against any provisions of the act.
 - e) The successful bidder is to arrange a full set of First Aid kit for attending to manpower deployed by him at site as per requirement.
 - f) Successful bidder should follow all safety norms at work site. The Doc. No. PSER:PMX:004:94 in this regard is available with BHEL engineer at site.
02. **STATUTORY COMPLIANCE** :
- i) The contractor shall comply with all state and central laws, statutory rules regulations etc. such as :



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The payment of wages act, maximum wages act, workmen's compensation act., industrial disputes act, employees provident funds act / scheme, Employees' state insurance scheme, contract labour (Regulation & abolition) act, 1970 etc. and all other acts, rules & regulations for employment of labour as may have been and as may be enacted by the Government during the tenure of the contract and having force or jurisdiction at site. The contractor shall give to the local government body, police, labour authorities and other relevant authorities and all such intimation and notices as may be required by law and appraise BHEL site-in-charge of such compliance.

- ii) The contractor shall pay all taxes, fees, licence charges, deposits, duties, fines, royalty commissions or other charges which may be leviable on account of any 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 the contractor either from his bills or other issue as deemed fit.
- iii) The contractor shall obtain requisite licence from appropriate authority of the ministry of labour under the provision of the contract labour (Regulation and abolition) Act as soon as the work is avoided to him and indemnify BHEL against the application of any provisions of the act.
- iv) The contractor shall be responsible for provision of welfare and health of his employees / workmen, more particularly described in the contract labour (Regulation & abolition) act / rules, and safety precautions etc., as may be required for satisfactory execution of the contract.
- v) The contractor shall fulfil all his obligations in respect of canteens, rest rooms, accommodation including proper medical facilities etc. for the personnel employed by him, more particularly described in the contract labour (regulation & abolition) act / rules.
- vi) The contractor will be directly responsible for payment of wages to his workmen more specifically described in the contract labour (regulation and abolition) act / rules. A pay roll sheet showing all the wage payments representative should be furnished to BHEL site office for record purpose. BHEL site in-charge may be intimated the date of disbursement of wages to the workmen engaged for the work; so that his representative can witness the same. The contractor shall indemnify BHEL against any statutory liability on account of dues to his workmen.
- vii) The bidders should be having **appropriate licence from the local Boiler Inspectorate if the job involves welding of pressure parts**. Also they should be having alloy steel / carbon steel high pressure welders (for PIG and submerged arc welding approved by the local Boiler Inspectorate for welding the pressure parts. The bidders should clearly indicate the same in the offer.



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03. **TERMS OF PAYMENT:**

- i) No advance shall be payable to the contractor unless specifically spelt out in the tender enquiry.
- ii) A minimum time of fifteen days will be required for the processing of bills presented and for their payment.
- iii) 90% of the contract value shall be payable against submission of three progressive running bills. Each of the billed amount shall correspond to the quantum of job actually completed and to that effect the claim can be preferred based on percentage allotments (to be given in the work order) made. This, however, has to be certified by the resident manager / engineer of the site. Balance 10% of contract value shall be paid after successful synchronisation / commissioning. BHEL at its discretion may further split up the percentage break up given in billing schedule and effect payment to suit site condition, cash flow requirement etc. according to progress of work.
- iv) The bidder should be financially sound to maintain the site establishment with regard to timely payment of wages to his workmen, arrangements of other inputs viz. T&P consumables etc.

Non-receipt of progressive payment from BHEL due to any reasons should not be a constraint for the smooth execution of the job at site.

- v) The bidder should make all out efforts to provide all inputs in consultation with BHEL engineers at site for completing the job in the specified time frame.
- vi) **No over run/escalation / idle charges** are payable against any services job under any circumstances. (in exceptional cases such claims may be considered provided BHEL's customer admits of such payment).
- vii) Extra work rate being admitted off by BHEL for other similar contracts have been stated on the page no.10 of this annexure.

For any additional work not envisaged in the scope of work or quantities exceeding the stated quantities, these rates shall be applicable.

- viii) All claims for extra works should be settled before claiming the final (10%) bill. The contractor should prefer the final claim with the certificate that 'no other claim is due from BHEL against this contract', without which final bill cannot be processed for payment.
- ix) For reduction / deletion / withdrawal in the scope of work proportionate deduction in contract value will be made.



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4. PERFORMANCE :

- i) As soon as job is awarded, the contractor has to submit a barchart to the resident engineer nominated showing the detailed schedule for all activities.

This schedule will be reviewed by the resident engineer from time to time to enable the contractor to recast the barchart matching the planned completion of the job.

- ii) It shall be the responsibility of the contractor's supervisor to distribute the work among his workmen deployed at site and get day to day activities executed as per BHEL's requirement.

BHEL's engineers / supervisors will check the correctness of the job done and will also give the daily programme of work to the contractors supervisor. The contractor has to ensure completion of daily programme and if there is any spill over, the same has to be completed by putting in same additional resources. (Technical guidance wherever required will be provided by BHEL).

- iii) The scope of work mentioned in this tender enquiry gives the broad outline of the actual work involved and it not is possible to mention all minute details of the work. For proper evaluation, the bidders may seek clarifications from this office. Or else, they may visit site and study the job content before submitting offers and be well informed and acquainted with the actual working and other prevalent conditions of the site, facilities available etc.

No claim will be entertained later on the ground of lack of knowledge.

- iv) The bidders have to furnish the bio-data and experience details of the site-in-charge, other key workmen, supervisors, senior technicians etc. to be deployed. In case of award of contract, the key members of the contractor's team may be interviewed at site by BHEL's resident engineer to ascertain their suitability. Replacement of non-acceptable personnel will have to be arranged by the contractor immediately at his own cost.

- v) **Penalty for the delay** in job completion will be 0.5% per day of delay, limiting to maximum 10% of the contract value, to be imposed on the contractor in case the delay in work completion is attributable to the lapses on the part of the contractor.

- vi) **Performance Guarantee** : Even though the work will be carried out under supervision of BHEL Engineers, the contractor shall guarantee against defects attributable to faulty workmanship or procedure



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adopted in the overhaul for items covered in the contract for a period of Six months from the date of re-commissioning of the set after the overhaul. The guarantee should cover all defects notified during this period and shall have to be attended free of cost immediately or at the time our clients are able to give shutdown of the set for the required period, when necessary. In case of failure of contractor to attend to the defect as and when required in time, BHEL shall arrange to attend the defects and the charges shall be levied to the contractor's account and shall be recoverable from the security deposit / progressive payments.

5. MISCELLANEOUS :

- i) The bidders shall submit a list of jobs being carried out by them or expected to be taken up by them during the period as called for in the participation of the tender.

Enclosure – 6.

- ii) The contractor has to engage a cleaning gang at site to ensure continuous cleaning of the floor at work site to protect the parts and to give safe access at the work site.
- iii) Obtaining licenses / permits / road permits in connection with the fulfillment of the contractual obligations is entirely the contractors responsibility. However, wherever applicable BHEL can only offer support to the extent possible.
- iv) For all matters bearing on the execution of the job at site, the decisions of the resident engineer are final and binding upon the contractor.
- v) The contractor has to retain suitable minimum work force at site for a period of one month from the date of completion or work / commissioning, to attend any small / miscellaneous problems, as leakage etc.
- vi) The contractor has to mobilize on a short notice (within 4 days) to attend any troubles encountered in the equipment worked on, during warranty period of six months.
- vii) After dismantling and during execution of the job, successful bidder has to suitably tag the components and sub-assemblies for traceability and store properly before final assembly. This is as per Doc. Nos. PSER:PMX:002:94 & PSER:PMX:001:94.
- viii) Process control of Special Processes like Welding and Heat Treatment shall be carried by successful bidder as per Doc. Nos. PSER:QLY:001:99, PSER:QLY:001:94 (3 VOL) and PSER:QLY: 003:99.



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- ix) Proper segregation, identification, tagging and up-keep of all dismantled items at work site during job execution have to be done by successful bidder.
- x) Successful bidder is to obtain necessary "No Dues" certificates before demobilisation from site.
- xi) Any NDT within the scope shall be as per Non-Destructive Examination manual (Doc. No. PSER:QLY:002:99 available with BHEL site engineer).
- xii) Unless otherwise mentioned specifically in this tender elsewhere, the storage & preservation of components, sub-assemblies, IMTEs, T&Ps, Construction Equipments etc, maintenance of stores, watch and ward of stores and BHEL site office is in the scope of the successful bidder.
- xiii) The successful bidder is to arrange extra illumination at work site to augment the existing site illumination if required to enable round-the-clock safe working.

Note: Any of the documents mentioned above can be referred before submission of tender at the office of PSER:SAS(CAL).

EXTRA WORK RATES CURRENTLY BEING ADMITTED BY BHEL, PS-ER

- A. The following all inclusive manhour rates will be applicable for modification, rectification work and services work.

(For all categories)

- a) Average single manhour rate including overtime if any, supervision, T&P, other site expenses and incidentals including consumables as certified by site-in-charge of BHEL.

Rs.18/- per manhour (Rs. Eighteen per manhour only)

- b) Same as above (a) but excluding supply of consumables by vendor.

Rs.12/- per manhour (Rs. Twelve per manhour only)

- B. The following all inclusive rates will be applicable for modification work involving welding of high pressure butt joints only. Extra work involving other types of joints will be done on the above manpower basis.

Unit rate per equivalent joint of size OD 63.5 mm x 6.3 mm thick

Average unit rate per equivalent joint,
including NDT and stress relieving.



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Carbon Steel

Rs.200/- (Rs. Two hundred only)

Alloy Steel

Rs.250/- (Rs. Two hundred fifty only)



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List of enclosure to be furnished by the bidder along with tender documents.

- | | | |
|----|---|----------------|
| a) | Experience certificate | Enclosure 1 * |
| b) | Banker's certificate of financial soundness as per BHEL' format | Enclosure 2 * |
| c) | IT / ST clearance certificate | Enclosure 3. |
| d) | Organisation Chart | Enclosure 4. * |
| e) | List of concurrent jobs held by the contractor / bidder. | Enclosure 5. |

(* Vendors registered with BHEL should submit documents in support of sl. no. c only.)

List of documents to be furnished by the contractor to the resident engineer before commencement of the jobs / during the execution.

- i) Barchart (if not furnished in the offer)
- ii) List of T&P being mobilized. Test / Calibration certificate with date of validity for lifting / pulling devices and measuring / test instrument (if not furnished in the offer).
- iii) Category wise list of manpower being mobilized.
- iv) List of consumables being mobilized.
- v) Licence from the department of Labour under contract Labour (Regulation & Abolition) Act / Proof of Application for Licence.
- vi) ESI coverage, if applicable.
- vii) Insurance certificate covering the site personnel.
- viii) Proof of remittance of provident fund to the concerned authorities, for all workmen employed for this job.
- ix) Third party insurance coverage.



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ANNEXURE - VI

QUESTIONNAIRE TO BE FILLED IN BY THE BIDDER, SIGNED WITH DATE AND SEAL, AND TO BE RETURNED ALONG WITH TECHNICAL TENDER.

BIDDER'S NON-ACCEPTANCE OF TENDER REQUIREMENTS CAN DISQUALIFY HIS BID FOR OPENING OF "PRICE BID"

TENDER NO: **PSER:SCT:** DATE:/...../20.....

- 01 NAME OF THE ORGANISATION.
ADDRESS, TELEPHONE / FAX NO. :
.....
.....
.....
.....

- 02 MODE AND PARTICULARS OF EMD
ENCLOSED

- 03 BANKER'S CERTIFICATE FOR FINANCIAL : Enclosed / Not enclosed.
SOUNDNESS / CAPABILITY TO
UNDERTAKE WORK.

- 04. IS THE FIRM HAVING VALID TESTED / : YES / NO.
CALIBRATED TOOLS AND MEASURING
INSTRUMENT REQUIRED FOR THIS TYPE
OF JOB AND EQUIPMENT.

- 05. ORGANISATION CHART / MANPOWER : Enclosed / Not enclosed.

- 06. STATUTORY REQUIREMENTS AS PER :
RELEVANT ACTS WITH LATEST
AMENDMENT (Pl. tick out)
 - i) LICENCE FOR EMPLOYING : Will be complied with
CONTRACT LABOUR
 - ii) MINIMUM WAGES ACT : - do -
 - iii) INSURANCE OF SITE PERSONNEL : - do -
EMPLOYED.
 - iv) WORKMEN'S COMPENSATION ACT : - do -

 - v) THIRD PARTY INSURANCE : Will be complied with
 - vi) EMPLOYEE'S LIABILITY ACT
 - vii) INDUSTRIAL DISPUTES ACT : - do -
 - viii) EMPLOYEE'S PROVIDENT FUNDS : - do -
ACT



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- ix) CONTRACT LABOUR : - do -
(REGULATION AND ABOLITION)
ACT / RULES
- x) SAFETY APPLIANCES / DEVICES : - do -
FOR WORKMEN
- xi) BOILER INSPECTORATE : - do -
- xii) ARBITRATION ACT : - do -
07. AGREEABILITY TO "NO OVERRUN : Agreeable
CHARGES" CLAUSE
08. AGREEABILITY TO "NO IDLE TIME : Agreeable
CHARGES" CLAUSE
09. AGREEABILITY TO EXECUTE FULL : Agreeable
SCOPE OF WORK OF TENDER ENQUIRY
(INCLUDING RELATED MINOR
ACTIVITIES).

Signature of the bidder :

Date :

Name of the person signing :

Designation :

SEAL
