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TENDER SPECIFICATION

TENDER ENQUIRY NO. BHEL:NR(SCT): JHAJJAR: CHEM-CLEAN:683

FOR

**Pre-Boiler flushing & chemical cleaning of Boiler at 3 X 500 MW
APCPL – Jhajjar, Haryana**

PART I – TECHNICAL BID



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA



ISO 9001-2000, ISO 14001 and
OHSAS 18001 certified
company
SubContract and Purchase
Deptt.

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA
Phone: 0091-0120-2515476 / 2515464 / 2515479
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IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

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TENDER NOTICE

Sealed tenders are invited from the contractors fulfilling qualifying requirements for the work of “Pre-Boiler flushing & chemical cleaning of Boiler at 3 X 500 MW APCPL – Jhajjar, Haryana ”

TENDER NO. BHEL:NR(SCT): JHAJJAR: CHEM-CLEAN:683

QUALIFYING REQUIREMENTS:

- 1.0 Tenderer who wish to participate should have executed similar nature of 'Chemical Cleaning' work in at least one unit of rating 195 MW or above within the preceding seven (7) years period reckoned as on the date of bid opening.
'AND'
- 2.0 Tenderers should also have an average annual turnover of minimum of Rs.55 Lacs (Rupees Fifty Five Lacs only) based on the audited accounts of last three financial years (2006-07, 2007-08 & 2008-09). Bidders shall submit audited annual accounts (balance sheets and profit & loss account) in support of this.

NOTES:

- (i) **The Tender Documents comprise of following;**
 - (a) General Conditions of Contract(GCC), Special Conditions of Contract(SCC),Tender Notice, Project Synopsis, etc.
 - (b) Rate Schedule
- (ii) Tender Documents with complete details are hosted on BHEL's web page www.bhel.com. Bidder(s) intending to participate may download the tender document from the web site. Bidder(s) downloading the tender documents from the web site, shall remit Rs.1000/- (Rupees One thousand only) in the form of crossed demand draft (non-refundable), in favour of BHEL, NOIDA along with their offer.
- (iii) Bidder(s) can also purchase hard copy of tender documents from this office. Tender documents (non transferable) will be issued on all working days between 09.30 Hrs. to 12.30 Hrs within the sale period i.e **upto 15.03.2010** on payment of Rs.1,000/- (non-refundable) either in cash or by crossed demand draft in favour of BHEL, NOIDA. Request for issue of tender document should clearly indicate Tender No. and work.
- (iv) Tenders must be submitted to the undersigned 'OR' to Shri Kailash Arora, Sr. Asstt. 'OR' to Smt. Usha Kochhar, Sr. Asst. in Room No. 104, PSNR, NOIDA latest by **15:00 Hrs. on 15.03.2010**. Technical bids shall be opened at **15.30 Hrs. on 15.03.2010**. Tenders received after the due date & time shall be liable to be summarily rejected.
- (v) Earnest Money Deposit (EMD): Refundable, Non-interest bearing **EMD of Rs 2,00,000/-** shall be deposited by Account Payee Pay Order 'OR' Demand Draft in favour of " Bharat Heavy Electricals

TENDER ENQUIRY NO. BHEL:NR(SCT): JHAJJAR: CHEM-CLEAN:683

Limited" payable at Delhi/NOIDA . Those bidders who have already deposited ' One Time 'EMD' of Rs. 2,00,000/- with BHEL, PSNR, NOIDA need not submit EMD with the present tender.

- (vi) Tenders not accompanied with Full Earnest Money Deposit, as indicated above, will not be considered.
- (vii) **All corrigenda, addenda, amendments and clarifications to this Tender will be hosted in the related web page and not in the newspaper. Bidders shall keep themselves updated with all such amendments.**
- (viii) BHEL reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
- (ix) BHEL takes no responsibility for any delay/loss of documents or correspondences sent by courier/post.
- (x) **BHEL reserves the right to go for a Reverse Auction instead of Opening the submitted sealed bid, which will be decided after technical evaluation. As such, the bidders should submit their best prices in the 'Sealed Price Bid'. However, bidders are required to confirm their acceptance of "General terms and conditions" governing RA specifically in their technical bid. The "General terms and conditions" governing RA are given in the SCC of the NIT. Bidders are also required to furnish following details in their techno-commercial bid, for this purpose (RA).**

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

- a. Name and Designation of official
 - b. Postal Address (Complete)
 - c. Telephone Nos. (Land line & Mobile both)
 - d. FAX No.
 - e. E-mail address
 - f. Name of Place/State/Country, wherefrom he will participate in the RA.
- (xi) Bids, once submitted, shall not be returned.
 - (xii) Unsolicited discount/rebate shall not be accepted after bid opening.
 - (xiii) Purchase Preference will be given to CPSU's as per Govt. Guidelines.

Sr. DGM/SCP



ISO 9001-2000,
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TENDER NOTICE - NEWSPAPER

LAST DATE OF SALE : 15.03.2010
DUE DATE OF SUBMISSION : 15.03.2010 (15:00 Hrs.)

NIT NO. / NAME OF WORK
<p>TENDER NO. BHEL:NR(SCT): JHAJJAR: CHEM-CLEAN:683</p> <p>Sealed tenders are invited from the contractors fulfilling qualifying requirements given in the detailed tender specifications for the work of " Pre-Boiler flushing & chemical cleaning of Boiler at 3 X 500 MW APCPL – Jhajjar, Haryana ”.</p>

NOTES:-

1. Purchase Preference will be given to CPSU as per Govt. Guidelines.
2. Please visit our website at www.bhel.com for complete details of the tender.
3. All corrigenda, addenda, amendments and clarifications to this Tender will be hosted on above web page and not in the newspaper. Bidders shall keep themselves updated with all such amendments.

Sr. DGM/SCP

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PROCEDURE FOR SUBMISSION OF SEALED TENDERS:

The tenderers must submit their tenders as required in **two parts** in separate sealed covers **prominently superscribed as Part-I Technical bid and Part-II ,Price bid** also indicating on each of the cover tender specification no., date and time as mentioned in tender notice.

TECHNICAL BID (COVER-I)

Except **Price bid Part-II**, complete set of tender document consisting of General conditions of Contract, "Technical specification & Special terms and condition" (Part-I) issued by BHEL shall be enclosed in **Part I Technical Bid only**. All schedules, data sheets and details called for in the specification shall also be submitted along with technical bid. All details / Data / Schedules including offer letter duly signed and stamped are to be **submitted in duplicate**.

PRICE BID (COVER-II)

Tenderers may please note that price bid is **to be submitted only in original copy** of Tender i.e. Price bid (Part-II) issued by BHEL and no duplicate copy of same is required.

These Two separate covers i.e. cover I & II shall together be enclosed in a **third envelope (Cover-III)** and this sealed cover shall be superscribed with tender specification No., due date, time and submitted to officer inviting tender as indicated in tender notice on or before due date as indicated.

PROJECT SYNOPSIS

1. Name of the Owner : ARAVALI POWER CORPORATION PVT LTD

2. Address : INDIRA GANDHI STPP

District JHAJJAR

Haryana

3. Installed capacity : New project

4. New Installation : 3 x 500 MW

5. Nearest Railway station : Jharli -- 3 km

Jhajjar Town - 35 km

Bahadurgarh - 70 km

Delhi – 150 km

6. Nearest City : Bahadurgarh 70 Km

7. Nearest Airport : Delhi - 150 km

8. Maximum Temperature : 48 Deg C

9. Minimum Temperature : Appx 2 Deg C

SECTION – III A

**SPECIAL CONDITIONS OF CONTRACT
FOR PRE-BOILER FLUSHING & CHEMICAL CLEANING
AT 3 x500 MW APCPL, Jhajjar, Haryana**

PART `A`

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Clause	Description
34.	General
35.	Preliminary and Civil works
36.	Consumables
37.	Tools & Plants / IMTE's
38.	Supervisory staff & workmen
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41.	Taxes & Duties
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**SPECIAL CONDITIONS OF CONTRACT
FOR PRE-BOILER FLUSHING & CHEMICAL CLEANING
AT 3 x500 MW APCPL, JHAJJAR, HARYANA**

SECTION III-A

34.0 GENERAL

- 34.1 This Tender specification covers the work of Pre-boiler flushing & chemical cleaning at following project sites

3 x500 MW APCPL, Jhajjar, Haryana (For three units)

The brief details of these projects are indicated in Project Synopsis.

- 34.2 The intent of this specification is to provide services according to most modern and proven techniques and codes. The omission of specific reference to any methods, equipment or material necessary for the proper and efficient services shall not relieve the contractor of the responsibility of providing such services/ facilities to complete the work or portion of work awarded to him. The quoted/ accepted rates/ **lumpsum price** shall deem to be inclusive of all such contingencies.
- 34.3 The contractor shall carry out the work in accordance with standard practices/ codes/ instructions/ drawings/ documents/ specification supplied by BHEL/ Customers from time to time.
- 34.4 The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during erection. If any portion of work is found to be defective in workmanship, not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost failing which the job will be carried out by BHEL by engaging other agencies/ departmentally and recoveries will be effected from contractor's bills towards expenditure incurred including BHEL's usual overhead charges.
- 34.5 Following shall be the responsibility of contractor and have to be provided within finally accepted rates / prices:
- (a) Provision of all types of skilled labour, adequately qualified and experienced supervisors, engineers, watch and ward as required, Tools & plants, Calibrated inspection, measuring & test equipments as specified and otherwise required for the work and consumables for fabrication, erection, testing and material for handling for the entire scope under this contract.
 - (b) Proper out-turn as per BHEL plan and commitment.
 - (c) Completion of work as per Schedule given by BHEL.
 - (d) Good quality and accurate workmanship for proper performances of equipment to the satisfaction of BHEL/ CUSTOMER.
 - (e) Repair and rectification as per instruction of BHEL engineer.

(f) Receipt, proper storage, preservation, Re-conservation of all chemicals.

(g) Keeping all the erection area neat and clean.

34.6 BHEL-Power Sector(NR) is ISO 9001, ISO 14001, OHSAS 18001, BS 7799 and SA-8000 certified company. Quality of work, to customer's satisfaction and system requirements is the essence of these certifications. The contractor in all respects will organise his work, systems, environment, process control documentation, T&P, inspection, measuring and testing equipment etc. as per instructions of BHEL engineer. Contractor have also to comply with the applicable legislation and regulations with regard to their scope of work including health, safety and environment (HSE) aspects of minimising risk arising from occupational health, safety hazards, controlling pollution and wastage's. Besides above the technical clearance from respective statutory bodies for above shall be obtained by contractor at their cost to meet regulatory/ statutory requirements.

34.7 Contractor shall ensure following towards HSE & Social Accountability :

34.7.1 Contractor shall ensure deployment of Safety Officer at site . The Contractor shall be fully responsible for accidents caused due to him or his workmen's negligence or carelessness in regard to the observance of the safety requirements and shall be liable to pay compensation for injuries. It may be noted that non-compliance to HSE & SA requirements will result in penal action. In case of violations of safety requirements, the Contractor shall be liable for a penalty of Rs. 200/- for the first violation and Rs. 500/- for the subsequent violations. For serious lapses, as decided by BHEL Engineer, fines upto Rs. 5000/- at a time can be imposed.

The amount towards penalties as above will be deducted from running bills of the Contractor. The amount so collected above will be utilized for supporting the safety activities at site. The decision of BHEL on above will be final and binding on the Contractor.

34.7.2 Some of the common safety rules to be followed during working are as follows :-

- No outsider is allowed to enter construction area without permission.
- No body is allowed to enter at construction site without Safety Shoe.
- Never enter work area without Safety helmet & chin strap in place.
- No climbing/working allowed without proper safety belt above 2 m. height.
- Do not exceed the speed limit 25 Kmph within premises.
- No debris obstacles allowed on the roads & passages.
- All accidents/incidents to be reported to site Incharge.
- Do not walk on pipelines or false ceiling.
- Maintain good Housekeeping at work site
- All Site supervisors & engineers (including subcontractor's) must be imparted structured training on construction safety before start of the job & record to be maintained.
- Tools box talk (5-15 minutes) by supervisor prior to commencement of any job.
- Monthly safety meeting with Site In-charges.
- LPG cylinders not allowed for gas cutting.
- Good House keeping. Separate waste bins to be used for flammable & non flammable material.
- Safety awareness programs for workers by display of boards, posters, competitions, talks etc.

- Deployment of Safety Supervisors for every 250 workers and part thereof at work site.
- Display of List of First Aid trained persons.
- Testing certificates for lifting tools & tackle.
- Provision & maintenance of fire extinguishers at construction site & material stores.
- Display of emergency telephone numbers at various locations.
- For work in confined space use 24 V lamp fitting & use tools with air motors or electric tools with max. 24 V.

34.7.3 Further, the contractor is required to provide proper Safety Net System wherever the hazard of fall from height is present as per instructions of BHEL Engineer at site. The safety net shall be fire resistant, duly tested and shall be of ISI mark and the nets shall be located as per site requirement to arrest or to reduce the consequences of a possible fall of persons working at different heights

34.7.4 Contractor shall ensure following :

- (A) Contractor has to maintain contact with local hospital having scanning & other ultra modern medical facilities including ambulance required during emergency
- (B) Contractor has to ensure pre employment medical check for all staff & workers.
- (C) Contractor has to ensure that adequate First Aid facilities are available at work site for emergency purpose. This emergency set-up should include, but not limited to, the following

- Oxygen set up
- Breathing apparatus
- Eye wash facility
- Stretcher
- Trauma blanket
- Medicines.

In addition to above, BHEL (through its other contractor) has arranged ambulance at work site for emergency purpose, which can be utilized by contractor in case of emergency. In case , under unavoidable circumstances , if the ambulance is not available , the contractor will have to arrange for the same as under clause 34.7.4(A).

34.7.5 The contractor shall comply with following towards Social Accountability:

- The contractor shall not employ any employee less than 15 years of age in pursuant to ILO convention. If any child labour were found to have been engaged ,the Contractor shall be levied with expenses of bearing his education expenditure which will include stipend to substantiate appropriate education or employ any other member of family enabling to bear the child education expenditure.
- The contractor shall not engage Forced / Bonded Labour and shall abide by abolition of Bonded Labour System (Abolition) Act, 1976.
- The contractor shall maintain Health & safety requirement as stipulated in the Contract and Contract Labour (Regulation & Abolition) Act,1970.
- The Contractor shall abide by UN convention w.r.t Human Rights and shall be liable for Discrimination /Corporal punishment for failure in meeting with relevant requirements.
- The Contractor shall abide the requirement of Contract Labour (Regulation & Abolition) Act, 1970 for working hours.
- The Contractor shall abide by the statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.
- The Contractor shall arrange potable drinking water to its employees & workers.

35.0 PRILIMINARY and CIVIL WORKS

- 35.1 Before starting erection job contractor shall ensure that area connected to his scope of work is sufficiently enclosed against ingress of dust and water and all debris have been cleared of from the floor to a designated area as per instruction of engineer. The contractor shall arrange to get the working area and surroundings cleared daily to ensure the dust free atmosphere and free from seepage water for working and shall maintain sufficient labour and general cleaning of work areas. Delay of work on this account will not be acceptable.
- 35.2 The contractor shall cover all opening on floor and put temporary hand railing on all sides of the floor to avoid any accident to the working personnel.
- 35.3 **Any civil works required for safe and efficient operation of tools and tackles like grouting/ excavation/ casting of foundation/ anchor points for derricks, winches, guy ropes fastening scaffoldings etc. or any other temporary supports shall also be the contractor's responsibility. For these civil works all materials including cement/ steel and required facilities will have to be arranged by contractor at his own cost.**
- 35.4 The contractor shall provide his tool stores for special tools and instruments at a convenient place near to the place of working area.

36.0 CONSUMABLES

- 36.1 The contractor shall provide within finally accepted price, all consumables. **The chemicals which are supplied by BHEL shall be issued to contractor for subject work only.** Contractor shall maintain proper records for all these.
- 36.2 It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of consumables. Non availability of any consumable materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.
- 36.3 It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding supplies of consumables such as welding electrodes/ filler wires/ gases lubricants etc. before procurement. On receipt of consumables at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform to BHEL all details regarding type of consumable batch No., Date of expiry etc. and produce test certificate for each lot/ batch with correlation of batch/ lot no. with respective test certificate. No consumable will be allowed to be used without valid test certificate.
- 36.4 BHEL reserves the right to reject the use of any consumable including electrodes, gases, lubricants/ special consumables if it is not found to be of the required standard/ make/ purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required and records maintained. Storage of all consumables including welding electrodes shall be done as per requirement/ instruction of the Engineer by the contractor at his cost.
- 36.5 In case of improper arrangement for procurement of any consumable, BHEL reserves the right to procure the same from any source and recover the cost from the Contractor's first subsequent bill at cost plus the departmental charges of BHEL

from time to time (30% at present). The decision of Engineer in this regard shall be final and binding on the Contractor.

- 36.6 Any wastage of BHEL supplied chemicals by the contractor shall be made good by him only. The consumption of chemicals shall be properly accounted for. Surplus material if any shall be properly stacked/ packed and returned to stores.

37.0 TOOLS AND PLANTS / IMTE's

- 37.1 T&Ps and IMTEs (Inspection, Measuring & Testing Equipment), which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by contractor. In the event of the failure of contractor to bring necessary and sufficient T&Ps/ and IMTEs, BHEL will be at liberty to arrange the same at the risk and cost of contractor and hire charges as applicable shall be deducted from contractor's bill. Decision of BHEL in this regard shall be final and binding on contractor.
- 37.2 BHEL shall provide crane of capacity 14 T / 20T or any other crane of suitable capacity free of hire charge to the contractor for the materials handling and erection but the fuel and operation shall be under the scope of contractor. All the lubricants shall be supplied by BHEL for the crane for which the contractor shall intimate BHEL in advance.
- 37.3 All distribution boards, connecting cables/ welding cables, wire ropes, hoses etc. including temporary air/ water/ electrical connections etc, shall have to be arranged by the contractor at his own cost.
- 37.4 Any loss/ damage to any part of BHEL T&Ps and IMTEs shall be to the contractor's account and any expenditure on these accounts by BHEL will be recovered from the contractor's bill in case the contractor fails to make good the loss. Replacement cost including BHEL overheads in respect of irreparable/ completely damaged/ non return of T&Ps and IMTEs shall be recovered from the contractor's running bills.
- 37.5 Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection, measuring and Test equipment). The IMTEs shall have test/ calibration certificates from authorised/ Govt. approved/ accredited agencies traceable to National/ International standards. Each IMTE shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
- 37.6 Re-testing/ re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer with in the contract price. The contractor will also have alternate arrangements for such IMTE so that work does not suffer when the particular instrument is sent for calibration. Also if any IMTEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall i.e. repeat the readings taken by that instrument. Failing which BHEL may deploy IMTEs and re-take the readings at contractor's cost.
- 37.7 The contractor shall fabricate pipes, special bends, etc. threading and welding as required.

37.8 The servicing and realignment of skid-mounted equipment if required or if directed by BHEL shall be carried out by the contractor at no extra cost to BHEL.

37.9 The contractor shall completely erect & test all the piping systems, covered in the specification including sampling lines, hangers & supports, valves & accessories in accordance with the drawings furnished. This includes all necessary bolting, welding, pre-heating, stress relieving, testing, cleaning. System shall be demonstrated in condition to operate continuously in a manner acceptable to the Engineer. Welding shall be used throughout for joining pipes except where flanged screwed or other type joints are specified or shown on the drawings. All piping shall be erected true to the lines & elevation as indicated in the drawings.

Pipes sent in standard length shall be cut to suit the site conditions and the layouts. Tubes or pipes wherever deemed to be convenient will be sent in running lengths with sufficient bends.

It is possible that a few flanges may not be matching. The contractor shall be required to cut and re-weld the same as and when required without any additional cost.

The contractor shall be responsible for any modifications of shop fabricated pipes prior to installation to accommodate minor site alteration in pipe routing at no extra cost.

All vents and drains for piping equipment covered in the scope whether shown in the drawings or not shall terminate in atmosphere and to pit as directed by BHEL.

37.10 Wherever piping erected by the contractor is connected to equipment/ piping erected by the other agencies the joint at the connecting point shall be the responsibility of the contractor of this specification.

37.11 Normally the valves will have prepared edges for welding. But, if it becomes necessary, the contractor will prepare new edges or recondition the edges by grinding or chamfering to match the corresponding tubes and pipes. All fittings like 'T' pieces, weld neck flanges, reducers etc., shall be suitably matched with pipes for welding. The valves will have to be checked, cleaned or overhauled in full or in part before erection after chemical cleaning and during commissioning.

The contractor shall be responsible for correct orientation of all valves so that seats, stems & hand wheels will be in desired location. It is the responsibility of the contractor to obtain the information regarding orientation of valves not fully located on drawings before the same are installed.

37.12 Suspension for piping, etc., will be supplied in running lengths, which shall be cut to suitable sizes and adjusted as required.

37.13 The adjustment of all supports erected for maintaining the proper slopes of piping wherever required is also included in the scope of the contractor.

37.14 No temporary supports should be welded on the piping. In case of absolute necessity prior approval should be taken from BHEL Engineer. In such cases heat treatment if required, shall be carried out by the contractor as part of subject work.

- 37.15 All supports and anchors shall be installed to obtain safe and reliable and complete pipe installation as per instructions of Engineer. Any additional support as called for by Engineer shall have to be fabricated and provided by the contractor. Contractor shall install piping in such a way that no excessive or destructive expansion forces exist under any condition. The contractor shall ensure that all supporting elements, anchors & restraint have been installed and adjusted in accordance with the drawings / sketches & other written instructions of the Engineer.
- 37.16 Layout of small bore piping as required shall be done as per site requirement. Necessary sketch for routing these lines should be got approved from BHEL by the contractor. There is a possibility of slight change in routing the above pipe lines even after completion of erection or from aesthetic point of view which should be carried out at no extra cost.
- 37.17 All the valves, including motorised valves, flap valves, etc. shall be serviced and lubricated to the satisfaction of Engineer before erecting the same and during pre-commissioning also. Welding or jointing of extension spindle for valves to suit the site conditions and operational facility shall be part of erection work within the quoted rates.
- 37.18 Additional platforms and ladders of permanent nature incidental to the job for approaching different equipment/ valves as per site requirement, which may not be indicated in drawings, shall be fabricated and installed by the contractor. The materials required will be supplied by BHEL free of cost.
- 37.19 Erection and welding of necessary instrumentation tapping points, valves to be provided on equipment, auxiliaries and pipe lines covered within the scope of this specification, will also be the responsibility of the contractor and will be done as per the instructions of BHEL Engineer at no extra cost.
- 37.20 BHEL shall have lien on all T&P's, IMTEs & other equipment of the Contractor brought to the Site. BHEL shall continue to hold the lien on all such items throughout the period of Contract. No material brought to the Site shall be removed from the Site by the Contractor or his Sub-contractors without the prior written approval of the Engineer.

38.0 SUPERVISORY STAFF AND WORKMEN

- 38.1 The contractor shall deploy all the skilled, semi-skilled and un-skilled workmen required for all the work under this specification. Only fully trained and competent persons with previous adequate experience on the job shall be employed. They shall hold valid certificates wherever necessary. BHEL reserves the right to decide on the suitability of the workers and other personnel who will be deployed by the contractor. BHEL reserves the right to insist on removal of any employee workman of the contractor at any time, if they find him unsuitable and the contractor shall forthwith remove him.
- 38.2 The supervisory staff including qualified Engineers deployed by the contractor shall ensure proper out-turn of work and discipline on the part of the labour put on the job by the contractor and in general see that the works are carried out in a safe and

proper manner and in co-ordination with other labour and staff deployed directly by BHEL or other contractors of BHEL or BHEL's client / other agency.

- 38.3 The work shall be executed under the usual conditions without affecting major power plant construction and in conjunction with numerous other operations at site. The contractor and his personnel shall co-operate with other personnel/contractor, co-ordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 38.4 The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. The contractor shall be responsible to ensure that assembly and workmanship conform to the dimensions and tolerances given in the drawings/ documents/ instructions given by BHEL Engineer from time to time.
- 38.5 The contractor shall deploy the necessary number of qualified/ certified and approved full time electricians at his cost to maintain his temporary electrical installation till the completion of work.
- 38.6 It is the responsibility of the contractor to engage his workmen in shifts or on overtime basis for achieving the targets set by BHEL. The contractor's finally accepted rates/ prices shall include all these contingencies.
- 38.7 If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts or wire, trees or any other property or to any part of erected components etc., the contractor shall make the same good at his own expense or in default, BHEL may cause the same to be made good by other workmen or by other means and deduct the expenses (of which BHEL's decision is final) from any money due to the contractor. shall be removed and deposited at location(s) specified by BHEL within the project premises (including weighment of the same within the project premises if required).

39.0 PROGRESS REPORTING

Contractor is required to draw mutually agreed execution programmes in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed programme and shall also timely arrange additional resources considered necessary at no extra cost to BHEL

Progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled programme shall be discussed for actions to be taken for achieving targets. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.

40.0 DRAWINGS AND DOCUMENTS

The detailed drawings, specifications available with BHEL engineers will form part of this tender specification. These document will be made available to the

contractor during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.

Necessary drawings/schemes to carry out the execution work will be furnished to the contractor by BHEL which shall be returned to BHEL Engineer at site after completion of work. Contractor shall ensure safe storage and quick retrieval of these documents.

The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawings/ data/ documents

The data furnished in various Annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such works.

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

Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.

41.0 TAXES & DUTIES

41.1 TDS under Income Tax, Sales Tax, VAT etc, if any, shall be deducted at prevailing rates on gross invoice value from the running bills unless Exemption Certificate from appropriate Authority / Authorities is furnished.

41.2 Price quoted shall be inclusive of all taxes except service tax. The service tax, as legally leviable & payable by the contractor under the provisions of applicable law/act, shall be paid by BHEL as per contractor's bill. However, contractor shall have to submit proof of service tax deposited by them immediately after the deposit but not later than the next bill submitted after the due date of deposit. The contractor shall furnish proof of Service Tax registration with Central Excise Division covering the services covered under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by contractor on BHEL for this project. The contractor shall obtain prior approval of BHEL before billing the service tax amount.

With introduction of Cenvat credit rules 2004 which came into force w.e.f. 10.09.2004, excise duty paid on input goods including capital goods used for providing the output service and service tax paid on input service can be taken credit of against the service tax payable on output service. **As such, while offering the rates, the contractors may take into account the benefit of above provisions as the cost of input to contractors will be the cost net of excise duty and service tax and adjust their offer price accordingly to make it more competitive.**

- 41.3 In VAT applicable States, "Tax Invoice" if required under the relevant State VAT law shall be submitted along with other compliances as per concerned VAT Act.
- 41.4 Contractor shall get his organization registered with concerned sales tax/VAT authorities within 15 days of award of this contract, if applicable. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The sales tax/VAT registration for this contractor shall be forwarded to BHEL within 30 days from the date of LOI. In case the contractor is already registered for sales tax/VAT with Govt. Authorities he must quote his registration no, while submitting their tender.
- 41.5 **Contractor has to make his own arrangement at his cost** for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing their materials, plants, and equipment at site for the execution of the work, **including arrangement of Road permit as applicable under this contract.**

42.0 EXTRA WORK:

- 42.1 BHEL may consider for payment of extra works on manhour basis @ Rs.30/- (Rupees thirty only) per manhour only for such of those works which require major revamping or rework and which are totally unusual to normal execution work.
- 42.2 The rates indicated as above, shall include over time, if any, consumables, supervision, use of tools and tackles and other site expenses and incidentals.
- 42.3 The extra works, if any, shall be carried out by a separate gang or beyond working hours which can be identified for certification of man-hours. Logbook should be maintained and should be signed jointly by the contractor's representative and the BHEL Engineer on day to day basis. However, signing of log book does not necessarily mean acceptance of the extra works which would be identified by Engineer whether work is covered in one of the above categories. Only those works and man-hours, which are certified by the BHEL Engineer-in-charge, will be considered for payment. The decision of BHEL in this regard shall be final and binding on the contractor.

43.0 RATE SCHEDULE

- 43.1 Contractor shall fully understand equipment description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under these specifications shall be covered within the quoted rates.
- 43.2 The tenderer shall quote the rates as per the rate schedule only, in part II price bid (Original). Conditional price bids or price bids with any deviation/ clarification etc. are liable to be rejected. No cutting/ erasing / over writing shall be done.

44.0 INSTRUCTIONS TO TENDERER

- 44.1 Offers received without data / information required to be submitted under tender clauses are liable to be rejected. Documentary evidences should duly support all these data/ information.
- 44.2 No deviations to the tender conditions will normally be accepted.
- 44.3 **The tenderers are advised to actually visit the sites and fully acquaint themselves with site conditions, location of stores, transportation routes, quantum of work etc. before quoting their rates for this work. The tendrers are also advised to give the proof of visiting site along with the tender submission. BHEL shall not be responsible in any way for non-familiarisation of site conditions.** Once the tenderer has quoted for the work, it is implied that he has ascertained various site conditions and NO CLAIM whatsoever will be entertained by BHEL on any such account.
- 44.4 The contractor in the event of this work awarded to him, shall establish a site office at site and keep posted an authorised responsible officer who should hold a valid power of attorney for the purpose of the contract. Any order or instruction of the Engineer or his duly authorised representative shall be communicated to the contractor's representative at site office and the same will be deemed to have been communicated to the contractor at his legal address.
- 44.5 **The equipments and materials deployed by the contractor shall be subject to BHEL/Third party inspection/ verification prior to despatch. The test certificates of the equipments and materials shall be provided by the contractor prior to inspection/verification.**
- 44.6 **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.**

45.0 PRICE VARIATION

- 45.1 The price shall remain firm throughout the period of contract.

46.0 LIQUIDATED DAMAGES (LD) -- For each Unit

- 46.1 This clause shall be applicable as per clause no. 25.5 of the GCC of the tender.

47.0 SECURITY DEPOSIT

- 47.1 The contractor shall submit Security Deposit within 15 days from the date of issue of LOI as per clause no. 16.2 of the General Conditions of Contract (GCC). In case the contractor opts to furnish Bank Guarantee as a part of Security Deposit, the BG shall be issued as per the Performa enclosed as per Annexure-H of the GCC and also that the BG should be issued preferably through any of the Member Banks listed in the GCC;

For BG through any other Nationalized Bank (Not covered in the list of Member Banks of GCC), the discretion of its acceptance shall lie solely with BHEL.

48.0 OTHERS

- 48.1 In case of any contradiction between General Conditions of Contract (GCC) and Special Conditions of Contract (SCC), the latter shall prevail.
- 48.2 Clause 'Guarantee' of GCC shall not be applicable against this tender. The BG towards Security Deposit shall be released within 30 days of release of final payment of respective project site.
- 48.3 The tentative schedule to perform the process for individual projects is indicated in the contract. However the possibility of requirement for chemical cleaning simultaneously at projects can not be ruled out. As such, the bidders should take cognizance of such eventuality while quoting.

SECTION III-B

SPECIAL CONDITIONS OF CONTRACT

INDEX

Cl.. No.	Description
49.	Scope of work
50.	Facilities to be provided by BHEL/ Contractor
51.	Time schedule
52.	Over run
53	Insurance
54	Terms of payment

SECTION III-B

SPECIAL CONDITIONS OF CONTRACT

49.0 SCOPE OF WORK

49.1 Requirements are as under:

1. Pre-boiler flushing consists of detergent flushing of feed lines, condensate lines, drip lines, deaerator and heaters and the duration of the activity shall be as per clause no. 51.2.
2. Duration of chemical cleaning of each boiler shall be as per clause no. 51.2.
3. The **Bill of Temporary Material** indicated in **Annexure II** for carrying out chemical cleaning and pre boiler flushing is tentative **for each unit**. The actual scheme of pipelines for the chemical cleaning and flushing process will be provided by BHEL at site. **All required materials listed in the specifications of this NIT or even any additional requirement to perform and complete the process shall be provided by the contractor within the awarded price.** The bidder must take care of such variations in their offer.
4. Above cleaning process for subsequent units existing at one individual project, generally be done separately and hence the same set of materials and facilities shall be utilized for individual units.
5. The process has to be done as per the process scheduled for individual projects as listed in the schedule of activities. The contractor has to mobilize his set of resources from one place to other project sites for their optimum use. In case additional set of materials is required to meet the commissioning schedule of individual project, the same are to be arranged by the contractor within the awarded price.
6. All the consumables (including but not limited to gaskets, lub oil etc.) are to be supplied by contractor.
7. Thermocouples to be used should be accurate in the range of 0-200°C. All the instruments pressure & temp. Gauges should be calibrated with valid calibration certificates.
8. Instrument cables for measurement of temperature should be temperature compensated. They are to be laid from the measuring instrument to the control room. 02 numbers of thermocouples, 1500 mm long, are to be fixed inside the drum. 08 numbers of thermocouples, MTM peening type and K-type, along with pads are to be fixed on water wall and economiser tubes.
9. Only the source of power will be provided by the owner at one point at project site. **Cables from the source of power to power distribution boards, Motor control centers and to individual equipments are to be provided and laid by the contractor. Earthing of individual motors is to be provided by contractor.**

10. Chemicals required for pre-boiler flushing and chemical cleaning of boiler will be supplied by BHEL/ owner. **They are to be received, transported, used and handled by the contractor.**
11. Temporary drum level indications – 02 in numbers, one at the control room and the other near circulating pumps – along with electric bulbs, switches and cables are to be provided.
12. 05 Nos. temporary sample coolers along with connecting lines for samples and cooling water are to be erected by contractor. 02 Nos. coolers will be used for samples from bottom ring header. 01 No cooler will be used for sample from CC pump. These sample coolers will be located at ground level. 02 Nos. coolers will be used for samples for drum water. Existing drum sampling lines may be used with some modifications. These coolers will be located at operating floor.
13. All temporary connections to the existing systems, all modifications in existing pipelines, valves and in civil works are to be normalized by the contractor after pre-boiler flushing and chemical cleaning of boiler. All temporary supports erected for these operations are to be removed by the contractor after completion of the operations.
14. Two nos. temporary gauge glasses are to be erected by the contractor for local drum level indication. Temporary gauge glasses (range 900 mm) will be supplied by the contractor.
15. Adequate number of safety equipments like goggles, masks, aprons, gloves, gum boots etc. are to be arranged by the contractor.

Minimum requirements for I boiler shall be as under

- | | |
|-------------------------------------|---------|
| • Gum boots (various sizes) | 6 Pairs |
| • Rubber gloves | 6 Pairs |
| • Rubber or Polythene aprons | 6 Nos |
| • Helmets | 12 Nos |
| • Safety goggles plain glass | 6 Nos |
| • Face mask (transparent, plastic) | 4 Nos |

First aid box Containing dilute ammonium hydroxide, 50% sodium bicarbonate solution, eye lotion, bandages, tincture of iodine, cotton, burnol etc0

16. Laboratory equipments for testing of chemicals along with chemical reagents for testing are to be arranged by contractor. Testing personnel (chemists) are to be arranged by the contractor.
17. Electrical testing equipments like tong-tester, multimeter, megger etc. are to be arranged by the contractor. Ammeter for each motor is to be provided in its MCC.
18. Civil works related to pumping units, supports etc are to be carried out by the contractor.
19. All temporary lines are to be hydraulically tested as required.

20. The contractor has to make arrangement for pumping out the spent/ neutralized EDTA after 10 days of aeration from neutralising pit to a suitable location.

NOTE: (1) The quantity indicated against above points is for carrying out work on per unit basis.

Welding requirements.

1. Contractor must ensure that the welders involved in the job are qualified as per statutory requirement (preferably IBR welder to be used)
2. Contractor to procure and use only BHEL /NTPC approved welding electrodes.
3. Contractor to ensure storage, drying facilities of the welding electrodes as per BHEL norms.
4. Suitable edge preparation is required to make prior to carryout the welding.
5. Contractor to ensure proper cleaning of welds between the beads
6. No visible cracks, pinholes or incomplete fusion are allowed.
7. Under cuts should not exceed 1 mm.

50.0 FACILITIES TO BE PROVIDED BY BHEL/ CONTRACTOR

FACILITIES TO BE PROVIDED BY BHEL						
PROJECT SITES	LAND		POWER		WATER	
	PROJECT	LABOUR COLONY	PROJECT	LABOUR COLONY	PROJECT	LABOUR COLONY
APCPL, Jhajjar	Free	nil	Free	nil	free for construction only	nil

50.1 BHEL shall provide limited open space for site office and store as per above table. It is the responsibility of the contractor to construct temporary sheds for his use, and to dismantle and clear the site after completion of work or as and when required, as a part of his scope of work.

50.2 BHEL shall not provide space for labour colony as per above table. Contractor shall have to build his own colony/ quarters for his workmen/ staff near the powerhouse on his own land or can, take housing on rental basis in nearby places. Contractor shall be responsible for providing all necessary facilities to staff and workmen like construction of residential accommodation with electricity & water inside the rooms,

proper sanitation, transport, medical facilities etc. at his own cost as required under various labour laws and statutory rules and regulations.

- 50.3 The **contractor shall submit to BHEL his electrical power requirements**. BHEL shall provide supply of construction power at 415V, 3 Phase each at one point in Power House to enable smooth execution of works, free of cost. Further distribution shall be done by contractor at his cost. All wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting supply.
- 50.4 BHEL shall provide water for construction at one point, free of cost. Any further distribution will also be the responsibility of the Contractor as a part of his work.
- 50.5 Provision of distribution lines of electrical power from the central points to the required place with proper distribution boards observing the safety rules laid down by the electrical authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS/ Copper/ Brass clamps, copper conductor, earthing materials including earthing pits, change over switches pipes etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shifts / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
- 50.6 In case of power cuts/ load shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.
- 50.7 Adequate lighting arrangement such as flood lights, hand lamps and area lighting shall be arranged by the contractor at the site of construction, storage area etc within finally accepted rates.
- 50.8. On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and levelled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, it will be got done by the Engineer and expenses incurred shall be recovered from the contractor along with prevailing overhead. The decision of BHEL Engineer in this regard shall be final.
- 50.9 The contractor should provide sample testing facilities like chemical lab., chemists and required accessories within the firm price of contract.
- 50.10 Road permits / Other documents required for despatching their material has to be arranged by the party.

51.0 TIME SCHEDULE

- 51.1 The contractor is required to commence the work within 15 days from the dates indicated in letter of intent unless BHEL decides to fix any other later date, howsoever. BHEL Engineer for each unit at each site will certify the actual date of start of work after adequate mobilisation of manpower and T&Ps by the contractor in their respective site.

- 51.2 **For each unit likely process time:**

Preparatory works for Pre-Boiler flushing – 15 days approx.

Process Time for Pre-Boiler flushing, rinsing etc. - 5 days approx.

Preparatory works for Chemical cleaning – 25 days approx.

Process Time for Chemical cleaning, sample testing etc. - 5 days approx.

Aeration of effluents and their disposal- 20 days

Entire work as detailed in the tender specifications **for each unit shall be completed within 10 weeks from the date of start of work for respective unit as certified by BHEL Engineer.**

(The programme of works and period for each unit is to be decided jointly along with BHEL engineer/ Customer at each site depending upon the work fronts availability. However a tentative programme is given as below).

Project site	Tentative Schedule (for unit – I)
Unit – I of 3X500 MW APCPL, Jhajjar, Haryana	15.04.10 to 25.06.10
Note : Tentative time gap between each unit shall be 3 to 4 months	

- 51.3 The work under the scope of this contract is deemed to be completed in all respects, only when the contractor has discharged all the responsibilities laid down in the contract. The decision of BHEL on completion date shall be final and binding on the contractor.

52.0 OVER RUN

- 52.1 In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended for individual unit works, the contractor shall not be entitled for any over run compensation for a period of two weeks after the agreed contractual completion date for the respective unit of the project. In case the agreed scheduled completion time gets extended beyond two weeks as stated above, the contractor shall be considered for payment of fixed over run charges @ Rs. 7,000/- Per Week (Rupees Seven thousand per week only) on receipt of advance notice intending to claim over run & on fulfilment of following condition:-

- The reasons for delay in completion of work are not attributable to contractor but however subject to the provisions of clause – 31 of GCC.
- The targets fixed during the over run period are achieved by contractor.

However, the over run charges shall be limited to 10 % of the contract value of each unit.

- 52.2 Extended duration and over run mentioned in above clause no 52.1 shall be applicable for the work of individual units separately.
- 52.3 Once the claim of over run charges is admitted no other compensation whatsoever (like for delays in receipt of materials, availability of fronts etc.) will be entertained.

- 52.4 The contractor shall maintain sufficient work force and other resources required for completion of the job expeditiously for the entire contractual period including total extended period.
- 52.5 Due to delay at one project, the contractor shall not be allowed to shift the activities at other project. The work schedule of the other projects shall be adhered as per the agreement with the BHEL for that project / schedule of the contract and contractor shall deploy all the required resources to perform the work of other projects.

53.0 INSURANCE

- 53.1 All contractors' equipment will be insured by the contractor up to the time of completion of the contract. The Contractor shall take a workers' compensation insurance policy for all the workmen employed by him against accidents and injuries and all other insurance as per the statutory/customer requirements with no liability to BHEL or its customer.

54.0 TERMS OF PAYMENT

- 54.1 The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
- 54.2 Contractor shall submit bills for the work completed under the specification detailing work done. The format for billing shall be approved by BHEL before raising invoices.
- 54.3 Subject to any deduction which BHEL may be authorised to make under the contract, the contractor on the certificate of the Engineer at site is entitled for payment as explained hereunder:

THE PAYMENT FOR EACH OF THE UNIT AWARDED VALUE SHALL BE RELEASED AS PER FOLLOWING;

- I 95% of proportionate contract value of per unit shall be payable on completion of its work as per contract.
- II. Balance 5% of contract value of the respective unit shall be payable as under;
 - i) 2.5% of the above value of unit shall be payable on completion of all pending work, reconciliation of material wherever required, area cleaning etc.
 - ii) The balance 2.5% of the above value of unit will be payable after 3 months on contractors discharging his responsibilities as stipulated in this contract and on passing of final bill. The SD amount, if any, deducted by the BHEL Site from the contractor's RA bills, shall be released along with this final payment.

Note: Above payment shall be released after adjustment of the contract value based on actual work carried out.

- III. No separate payment shall be made for any temporary structures, lifting arrangements for testing and other NDT etc., as all these activities shall be performed as integral to erection work as per site requirement and as directed by Engineer.

ANNEXURE-I

The information given below is tentative.

Subcontracting scope of work for pre-boiler flushing and chemical cleaning of boiler (using EDTA) is as follows.

SL. NO.	ACTIVITY DESCRIPTION
1	Providing all inputs required for erection of temporary system. This includes all T&Ps, IMTEs, materials, SEAMLESS/ERW piping, main pumps with motor, acid transfer pumps, valves, structures, scaffolding, mixing tank, fasteners, cables, distribution boards with necessary controls for operation of pumps, (including but not limited to the BOM enclosed-- Annexure II
2	Layout involving erection and welding of the system including piping, pumps, tanks, valves, cabling, distribution etc. and connection with the existing system as per the scheme of pre-boiler flushing and chemical cleaning of boiler. The scheme given is tentative and shall be finalized before start of work.
3	All the welding is to be done by qualified and experienced high-pressure welders. Welders shall be subjected to qualification tests at site before deployment on the job as per instructions of BHEL engineer.
4	Required nos. of pumps with capacities as indicated in the BOM shall be installed. Foundation of the pumps shall also be made.
5	Trouble free operation of individual pumps on re-circulation with water for 2 hours each prior to start of process.
6	Providing all the safety equipment, protective clothing i.e. dangree, goggles, face masks, apron, gloves, gum boots etc. and adequate manpower for handling of chemicals, prior to and during the entire process including neutralization.
7	Unloading of chemicals received at site and shifting of the chemicals inside customer premises and their storage till use & disposal of effluents.
8	Execution and supervision of the total process in shifts on continuous basis including lab facilities sampling and analysis during the process.
9	Restoration of the system after removal of temporary system installed earlier.
10	The contractor has to make arrangement for pumping out the spent/ neutralized EDTA after 10 days of aeration from neutralising pit to a suitable location.
11	Any activity not specified above but required to be carried out for completion of process and Notes on next page 2.

NOTES:

Inputs from the BHEL are limited to the following.

- Supply of Chemicals.
- Power, water, system & compressed air at source.

Apart from above, all other inputs to be arranged by contractor. The contractor has to provide following -

1. To ensure availability of instruments as per BOM duly calibrated for the process with calibration certificates.
2. To ensure availability of sufficient number of spare valves to meet any eventuality during the process.
3. Any leakage in the temporary system, failure of any of pumps etc. forcing stoppage of activity / draining of chemicals shall be attended to by the subcontractor immediately, and the cost of chemicals shall be borne by the subcontractor. If required the complete process will be repeated.
4. To keep the areas clean during the process.
5. Suitable platforms and approaches are to be provided around the mixing tank for stacking chemicals prior to their dozing.
6. The entire system shall be hydraulic tested for passing prior to installation.
7. All valves are to be serviced and tested for passing prior to installation.
8. Cordoning off of area around temporary system and entries to boiler with 'DANGER' and 'CHEMICAL CLEANING UNDER PROGRESS' posters during chemical cleaning process.
9. Provision of temporary lighting at site.
10. Any statutory clearance, if required, in line with IBR acts from Chief Inspector Boiler, of the state.
11. Testing of chemical samples.
12. Supporting of temporary pipelines at an interval of app. 5M.
13. Steam line, other lines and tank are to be insulated.
14. All Tools and Plants and IMTEs are to be arranged by contractor at his own cost to perform the work.

ANNEXURE- II**List of Temporary Piping Material & IMTEs for Chemical Cleaning
OF Boiler and Pre-boiler Flushing at 3 x500 MW APCPL, Jhajjar,
Haryana (For one unit)**

Material (C/S)

Item Name	SIZE Nb (ODxThk)	Quantity In Mtrs / Nos	Type	Remarks
PIPES	Nb300mm/12 inch (323x6.35)	6.00	Seamless	
	Nb250mm/10 inch (273x6.35)	30.00	Seamless	
	Nb200mm/8 inch (219x6.35)	400.00	Seamless	
	Nb150mm/6 inch (168x3.40)	200.00	Seamless	
	Nb100mm/4 inch (114x3.05)	150.00	Seamless	
	Nb50mm/2 inch (60.32x2.77)	500.00	Seamless	
	Nb40 (48.26x2.77)	50.00	Seamless	
	Nb25mm/1 inch (33.40x2.77)	200.00	Seamless	
	Nb15 mm (26.34x2.11)	150.00	Seamless	
TEE	Nb300 X 300 X 250	02 Nos	Seamless	
	Nb200 X 200 X 200	03 Nos	Seamless	
	Nb100 X 100 X 100	04 Nos	Seamless	
	Nb50 x 50 x 50	02 Nos	Seamless	
REDUCER	Nb200 / 150	05 Nos	Seamless	
	Nb250 / 200	02 Nos.	Seamless	
	Nb200 /100	01 Nos	Seamless	
	Nb150 /100	04 Nos.	Seamless	
	Nb100 /50	03 Nos.	Seamless	
ELBOW 90°	Nb250mm/10 inch	02 Nos	Seamless	
	Nb200mm/8 inch	20 Nos	Seamless	
	Nb150mm/6 inch	12 Nos	Seamless	
	Nb100mm/4 inch	15 Nos	Seamless	
VALVE Hand operated, Butt welded / Socket welded	Nb 200	09 Nos	Gate, 300 Class	
	Nb 150	01 Nos	Gate, 800 Class	
	Nb 150	04 Nos	Gate, 300 Class	
	Nb 100	06 Nos	Gate, 300 Class	
	Nb 150	03 Nos	NRV, 300 Class	
	Nb 50	10 Nos	Globe, 300 Class	
	Nb 50	02 Nos	NRV, 300 Class	
	Nb 40	08 Nos	Globe, 300 Class	
	Nb 25	15 Nos	Globe, 300 Class	
	Nb 15	10 Nos	Globe, 300 Class	

TENDER ENQUIRY NO. BHEL:NR(SCT): JHAJJAR: CHEM-CLEAN:683

	MS Tank (Covered), Rectangular, 60 Cu M with supporting structure for mixing the chemicals	01 No
	MS Tank (Covered), Rectangular, 50 Cu M with supporting structure for mixing of EDTA	01 No
	Pump, 200 Cu M / Hr, 20 Kg / cm ² with Strainer, base frame and spares alongwith suitable drive Motor with starter, ammeter, cable etc. with MCC and distribution board.	03 Sets
	Power cable from source to distribution board	150 Mtrs.
	Pump, 20 Cu M / Hr, 05 Kg/cm ² alongwith suitable drive Motor with starter, ammeter, cable etc. with MCC and distribution board	02 Sets
	PVC Hose Pipe, 50mm dia.	Approx. 50 Meters
	Sample Coolers	05 Nos.
	Mineral Wool, 40mm thick	400 Nos.
	Instruments(IMTEs)	
	Pressure Gauge, 0—20 Kg / Cm ²	05 Nos
	Pressure Gauge, 0—06 Kg / Cm ²	03 Nos
	Condensing Loop	08 Nos
	Thermometer 0 – 100 Deg.C.	02 Nos.
	Peening Type MTM Thermocouples (K type) with pad and compensating cable upto control room.	10 Nos.
	Thermocouple (K type) 1500 mm long with compensating cable upto control room	02 Nos.
	Drum gauge glass, range 900 mm long	02 Nos.
	Temporary Drum level indication at Control Room & near pump along with cable from drum floor	2 Nos.
	Safety Appliances as indicated	
	Laboratory testing equipments & reagents including those for EDTA chemical cleaning process.	
	Suitable pump & piping for effluent disposal from neutralizing pit.	

CERTIFICATE OF DECLARATION FOR CONFIRMING THE KNOWLEDGE OF SITE CONDITIONS

We,.....
..... Hereby declare and confirm that we have visited the project sites under the subject namely, and acquired full knowledge and information about the **site conditions, wage structure, Industrial climate and total work involved**. We further confirm that the above information is true and correct and we will not raise any claim of any nature due to lack of knowledge of site condition.

Tenderers Name and Address

Place:

(Signature of the Tenderers
with stamp)

Date:

ANNEXURE-IV

**NON DISCLOSURE AGREEMENT
Memorandum of Understanding**

BHEL PSNR is committed to Information Security Management System as per Information Security Policy.

M/s....., providing.....service to BHEL PSNR, Noida hereby undertake to comply with the following in line with Information Security Policy of BHEL PSNR;

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.
- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL PSNR.

(
M/s. BHEL, PSNR)

(
M/s.....)

ANNEXURE-V

Qualifying Requirements

(Bidders to mention their work experience and financial turnover details in line with qualifying requirements in this annexure)

Sl no.	Qualifying requirements	Bidders to mention their work experience and financial turnover details in line with qualifying requirements
1	Tenderer who wish to participate should have executed similar nature of 'Chemical Cleaning' work in at least one unit of rating 195 MW or above within the preceding seven (7) years period reckoned as on the date of bid opening. 'AND'	
2	Tenderers should also have an average annual turnover of minimum of Rs.55 Lacs (Rupees Fifty Five Lacs only) based on the audited accounts of last three financial years (2006-07, 2007-08 & 2008-09). Bidders shall submit audited annual accounts (balance sheets and profit & loss account) in support of this.	

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)

Against this enquiry for the subject item / system with detailed scope of supply as per our tender specification, BHEL-PSNR, NOIDA may resort to "REVERSE AUCTION PROCEDURE" i.e. **ONLINE BIDDING on INTERNET.**

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
3. In case BHEL decides to conduct reverse auction, BHEL's service provider shall contact the vendor directly and impart them the training.
4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the compliance form in the prescribed (provided by service provider) before start of Reverse auction. Without this the vendor will not be eligible to participate in the event.
6. **Total Price quoted shall be inclusive of all taxes except service tax in line with the NIT conditions for the subject work in Indian Rupees (INR), which is to be worked out as per the BOQ (Rate Schedule) given in tender enquiry and subsequent changes made, if any. EXCEL Sheet shall be provided, if applicable.**
7. Reverse auction will be conducted on schedule date & time.
8. At the end of reverse auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through service provider after completion of event on the same day preferably.
10. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.
11. In case BHEL decides not to go for Reverse auction procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with BHEL shall be opened as per BHEL standard practice.

FORMAT OF UNDERTAKING
(To be submitted in the bidder's letter head)

REF:

Dt.

Bharat Heavy Electricals Limited
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar,
NOIDA – 201 301(INDIA)

Sub.: Pre-Boiler flushing & chemical cleaning of Boiler at 3 X 500 MW APCPL – Jhajjar, Haryana ,

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited **APCPL, Jhajjar** 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 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 bidder)

RATE SCHEDULE

Sl. No	DESCRIPTION OF WORK	Rate in Rupees per Unit (In figures and words)	Amount in Rupees
1	Lumpsum price for carrying out Pre-Boiler flushing and chemical cleaning of 3 x 500 MW APCPL, Jhajjar, Haryana (For three units)		
2.	Rate for erection (including supply of temporary piping material) of additional length of Nb 200 mm/ 8 inch (219X6.35) line – beyond 400 mtrs. (As given in Annexure – II) (For evaluation purpose the additional length shall be taken as 200 mtrs.)		
	TOTAL		

(Seal and signature of Tenderer)

1. Incomplete offer received may not be considered for the subject work.
2. The Rate shall be entered in figures as well as in words. In case of difference in rates between words and figures THE LESSER OF THE TWO will be treated as valid rate.
3. In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work, if awarded, will be on the lowest quoted rate obtained against that item.
4. Evaluation shall be done considering all the items and respective quantities mentioned therein.

ANNEXURE – IX**Authorization of representative who will participate in the on line Reverse Auction Process;**

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

**TENTATIVE SCHEMES FOR PRE-BOILER FLUSHING AND CHEMICAL CLEANING
AT APCPL, JHAJJAR**





