



# BHARAT HEAVY ELECTRICALS LIMITED

Page  
1.5

ENQUIRY  
(INDIGENOUS)

( A Government of India Undertaking )  
HIGH PRESSURE BOILER PLANT  
PURCHASE DEPARTMENT - Advanced Technology Products  
THIRUCHIRAPALLI - 620014  
TAMILNADU (INDIA)

PHONE : 91-44-28158821  
GRAMS : BHARATELEC  
FAX NO :  
E-mail :  
Web :

<b>OFFICE COPY</b>	<b>Collective No.</b>	<b>Enquiry Date</b>	<b>Due Date For Quotation</b>
	2670600037	02.12.2006	08.01.2007
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	PROCUREMENT OF TUBE COILING MACHINE AS PER THE ENCLOSED SPECIFICATION. TUBE COILING MACHINE	NO	1.000	1.00	20.06.07

**General Note:**

1. PLEASE SUBMIT YOUR DETAILED OFFER IN THE TWO PART BID SYSTEM I.E. .  
TECHNICAL OFFER IN ONE SEALED COVER AND COMMERCIAL OFFER IN ANOTHER  
SEPARATE SEALED COVER.
2. POINT TO POINT CONFIRMATION TO BHEL'S SPECIFICATION AND COMMERCIAL  
TERMS AND CONDITIONS SHOULD BE PROVIDED IN THE ENCLOSED SHEET.
3. DETAILED CATALOGUE AND DRAWINGS SHOULD BE SENT ALONG WITH YOUR  
TECHNICAL OFFER.

**Enclosures:**

The offers should reach us before the time of opening of tenders.  
The offers will be opened at 14:30 hours on the due date in the presence of the  
tenderers who may like to be present.  
Late tenders are liable to be rejected.

Yours faithfully,  
For BHARAT HEAVY ELECTRICALS LIMITED

  
MANAGER / PURCHASE  
(Advanced Technology Products)



CBF113427

## SPECIFICATION FOR LATHE TYPE TUBE COILING MACHINE

**SCOPE:** SUPPLY, ERECTION & COMMISSIONING OF SEMI CNC LATHE COMPLYING WITH THE SPECIFICATION AS GIVEN BELOW.

### **1.0 PURPOSE :**

This lathe is for helical coil winding of tubes over mandrel /pipe. The coiling operation should facilitate multi-start and multi-layer winding in different layers with different pitches and thread helix. The winding can be either of right hand or left hand helix. The schematic arrangement of the lathe is given in the annexure.

### **2.0 HEAD STOCK :**

- 2.1 Swing over cross slide shall be **1200 mm.(min)**
- 2.2 Spindle Motor Rating (Min.) **20 Kw AC.**  
Suitable driving motor and gear box arrangement to achieve full torque at slow speeds shall be employed. Spindle should be able to start and rotate with a pre tension load , at any stage of coiling operation.
- 2.3 Spindle Motor shall be of either Siemens or Fanuc make of AC variable speed
- 2.4 Spindle speed selection may be mechanical and need not be controlled through CNC program.
- 2.5 Chuck speed shall be **0.5 to 2.5 rpm in steps of 0.5 rpm.**  
Mode of selection bidder to specify.
- 2.6 Torque/Power/Speed diagram of spindle motor to be provided.
- 2.7 Mechanical 3 Jaw / 4 jaw chuck with soft jaws mounted on the front end of the spindle should hold the mandrel/pipe of diameter of **50 mm to 250 mm.**
- 2.8 Provision shall be made available for rotation of spindle in both the directions and provision for control for inching, neutral and instant stop. (like brake) at desired position shall be there.

### **3.0 TAIL STOCK :**

- 3.1 Distance between centres shall be **2500 mm.**
- 3.2 Tailstock is to provide rigid end support for mandrel at non driving end. It should be a rigid unit built to support the mandrel, coil and fixtures weighing 3 t max and shall be located on the center line of headstock with the help of tenon. Tailstock should be movable and lockable manually along the axis
- 3.3 Tailstock shall be provided with a 3 jaw / 4 jaw chuck having soft jaws to hold a diameter range of **50 to 250 mm.** Hand wheel arrangement for quill is to be provided.

#### **4.0 CARRIAGE :**

- 4.1 Carriage slide shall have longitudinal travel of **2500 mm** approximately and shall be controllable through CNC program . Guide ways are to be lubricated and to be adequately protected against ingress of dust etc. by suitable protective covers.
- 4.2 Carriage movement should be controlled through CNC program. As the coiling operation is similar to "Multi – Start Thread Cutting" operation, carriage movement should be precisely linked with the revolution of the spindle with "closed loop" system to achieve desired pitches in the range of **10 mm to 250 mm**. Positional accuracy of carriage movement shall be within **50 microns**.
- 4.3 For the intended purpose, the spindle has to rotate in clockwise direction and the carriage has to move from left to right for right hand helix and right to left for left hand helix.

#### **5.0 CROSS SLIDE :**

Traverse of the cross slide is about **650 mm** from the central axis X - axis slide (cross slide) should have a sturdy construction over which a pre tensioning unit is mounted. X – axis mainly provides to traversing of pre tensioning unit close to rotating mandrel or away from rotating mandrel.. Cross slide guide ways are to be lubricated and protected against ingress of dust etc. by suitable protective covers. X –axis need not be a programmable axis.

#### **6.0 TOOL POST :**

- 6.1 PTU mounting base traveling in Y-axis on PTU slide shall have a travel of 525 mm as shown in the sketch. In addition, PTU slide will have longitudinal movement along the bed (carriage movement-Z axis), transverse movement across the bed (cross slide movement-X axis) and swivel +/- 30° (compound rest) with reference to the vertical axis. Refer schematic arrangement of coiling lathe in the enclosed sketch.
- 6.2 Pre tensioning unit will weigh approximately **500 kg** and this unit is not in the scope of the supplier.
- 6.3 Cross slide and compound rest movements shall be mechanical and need not be controlled through CNC programme.

#### **7.0 COOLANT SYSTEM : NOT REQUIRED.**

#### **8.0 MACHINE BED :**

- 8.1 No. of Guide ways, Bed width across ways and the type of guide ways –bidder to specify.
- 8.2 Detail of X, Y and Z axes feed mechanism-Bidder to specify.
- 8.3 Mechanism for locking X, Y & Z axis -Bidder to specify.
- 8.4 Feed range in X, Y & Z axes –Bidder to specify rapid / inch movement
- 8.5 Feed drives/motors X & Z axes [AC servo motors] either Siemens or Fanuc digital type (detail of model, make, type etc. should be given in the manual)

8.6 Details of System to ensure zero backlash for X,Y & Z axis-Bidder to specify.

8.7 Maximum Torque in X and Z axes

8.8 Type : PC based latest version

8.9 The system should have full alphanumeric keyboard, TFT colour display(10.4" or more), additional draw-out type Qwerty Key Board and mouse in suitable enclosure, RS232C serial interfaces, parallel interface for printer, COM port for telediagnosics, network ready with LAN, electronic hand wheels for all axes, , hard disk of sufficient capacity (Largest size available at the time of order shall be supplied), graphic simulation and preinstalled system software & other required software etc.(Details should be submitted by Vendor)

#### **9.0 MANUAL CONTROL :**

9.1 Complete manual control of machine with required switches / keys should be provided on operator's panel for selection of required axis, axis direction, spindle rpm, feed on/off, pitch selection, display of axis position values etc. for manual turning operation without using CNC program, CNC option MANUAL TURN & MDI mode. Diagram / Sketches for switches / keys provided on operators pendant should be submitted.

#### **10.0 MACHINE LIGHTS:**

10.1 Machine Lights for sufficient illumination of complete working area on both sides of operator's platform should be provided for clear visibility.

#### **11.0 PAINTING:**

11.1 One coat of suitable with 25  $\mu$  of DFT (Dry Film Thickness) and 48 hours of compulsory curing after painting. Two coats of Enamel Paint [Ethyl Zinc Silicate of Colour – International Tractor Orange] each with a DFT of 25  $\mu$  and intermittent curing of 16 hours.

#### **12.0 SERVO VOLTAGE STABILIZER:**

12.1 Indian make Oil / Air Cooled servo Controlled Voltage Stabilizer suitable for complete machine, its drives, controls, PLC etc with no undesirable Harmonics in the stabiliser output.

12.2 Make (To be specified by indenter as per the practice of units.)

12.3 Model & Rating -Bidder to specify.

12.4 Spares Package for the Voltage Stabiliser for 2 years working should also be offered.

12.5 Catalogue of the Voltage Stabiliser shall be submitted with the offer.

#### **13.0 LEVELING & ANCHORING SYSTEM**

13.1 Complete anchoring system including foundation bolts, anchoring materials, fixators, levelling shoes etc should be supplied

#### **14.0 TOOLS FOR ERECTION, OPERATION & MAINTENANCE :**

- 14.1 Special tools and equipment required for erection of the machine shall be brought by the vendor.
- 14.2 Test mandrel for checking spindle run-out & alignment of headstock/tailstock etc. should be supplied

#### **15.0 SPARES:**

- 15.1 Itemised breakup of mechanical, electrical and electronic spares used on the machine in sufficient quantity as per Vendor recommendation for 2 years of trouble free operation on three shifts continuous running basis. The list to include following, in addition to other recommended spares: (Unit Price of each item of spare should be offered)

**a) Mechanical Spares:** All types of Pumps, Valves, Pressure Switches, Transducers, Flow Switches, Filters, Seals, O-rings, Hydraulic Hoses etc.

**b) Electrical /Electronic / CNC Spares:** All types of Relays, Contactors, Proximity Switches, Push Buttons, Indicating Lamps, Semiconductor Fuses, Special Fuses, Circuit Breakers, Main Power Switch, Encoders, Scanning Heads for Linear Scales, MMC module, NCU module, Operator's panel with Display Unit, Floppy Disk Unit, I/O Cards for PLC, Servo Motors for Feed Drives, Power Module & Control Cards for Main Drive as well as Feed Drives etc.

- 15.2 Recommended set of spares for all attachments are to be offered with details.

- 15.3 Vendor to confirm that complete list of spares for machine and accessories, along with specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine

- 16.0 DOCUMENTATION :** Three sets of following documents (Hard copies) in English language should be supplied along with the machine

- 16.1 Operating manuals of Machine & CNC system

- 16.2 Detailed Maintenance manual of machine with all drawings of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic/ Coolant / Hydraulic circuit diagrams. All Assembly/ Sub Assembly Drawings shall be supplied with the part list also

- 16.3 Maintenance, Interface & commissioning manuals for CNC system, spindle & feed drives.

- 16.4 Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.

- 16.5 Detailed specification of all rubber items and hydraulic/lube fittings

- 16.6 PLC program print-outs with comments in English.

- 16.7 PLC program on CD, NC data & PLC data .

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- 16.8 Complete back-up of hard disk on GHOST CD and clear written Instructions (3 copies) to take back-up and reloading of a new hard disk.
- 16.9 Complete Master List of parts used in the machine shall be submitted by the vendor.
- 16.10 One additional set of all the above documentation on CD ROM, wherever possible

#### **17.0 FOUNDATION :**

- 17.1 Vendor shall submit the preliminary layout drawing for getting BHEL's approval within one month from the date of Letter of Intent (LOI) / P.O. whichever is earlier.

#### **18.0 ERECTION & COMMISSIONING:**

- 18.1 Supplier to take full responsibility for carrying out the erection, start up, testing of machine, its control & all types of other supplied equipment. Service requirement like power, air & water shall be provided by BHEL at only one point to be indicated by supplier in their foundation/layout drawings. Other requirements like crane and helping personnel shall also be provided by BHEL. Details of these requirements should be informed by vendor in advance.
- 18.2 Commissioning spares required for commissioning of the machine within stipulated time, shall be brought by the supplier on returnable basis.
- 18.3 All Cover Plates required for the machine and its peripherals including pits, if any, shall be supplied and installed by the vendor.
- 18.4 Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.

#### **19.0 MACHINE POSITIONING ACCURACIES & REPEATABILITY: Should be measured as per VDI/DGQ 3441 (Latest Revision) using LASER INTERFEROMETER.**

- 19.1 Positioning accuracy in X axis (Pa) per 1000 mm
- 19.2 Positioning accuracy in Z axis (Pa) per 1000 mm
- 19.3 Repeatability in X axis (Ps)
- 19.4 Repeatability in Z axis (Ps)
- 19.5 Positioning accuracy over entire traverse in X axis (Pa)
- 19.6 Positioning accuracy over entire traverse in Z axis (Pa)
- 19.7 Total positioning error along X & Z axes per 1000 mm (P)
- 19.8 Total positioning error along X & Z axes over entire traverse (P)
- 19.9 All the above accuracies should be demonstrated to BHEL engineers during pre-acceptance at Suppliers works and during Erection & Commissioning at BHEL Works

## **20.0 MACHINE ACCEPTANCE: (Tests/Activities to be Performed by Vendor)**

20.1 Tests/Activities to be carried out at supplier's works on the machine before dispatch :

20.2 Geometrical accuracies as per test chart.

20.3 Positioning accuracies as per VDI-DGQ/3441

20.4 The machine should be tested for continuous running of 48 hrs. If any break down occurs during this test, the test should be repeated for 48 hrs from that time.

20.5 Demonstration of all features of the machine, control system & accessories.

### **20.6 Tests/Activities to be carried out at BHEL works while commissioning the machine :**

20.7 The machine should be tested for continuous running of 48 hrs. If any break down occurs during this test, the test should be repeated for 48 hrs from that time.

20.8 Demonstration of all features of the machine, control system & accessories to the satisfaction of BHEL for efficient and effective use of the machine.

### **21.0 PACKING:**

21.1 Sea worthy & rigid packing for all items of complete machine, CNC System, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is despatched in containers, all small loose items shall be suitably packed in boxes

### **22.0 GUARANTEE :**

22.1 24 months from the date of acceptance of the machine.

### **23.0 GENERAL :**

23.1 Machine Model No.

23.2 Total connected load (KVA):

23.3 Floor area required (Length, Width, Height) for complete machine & accessories.

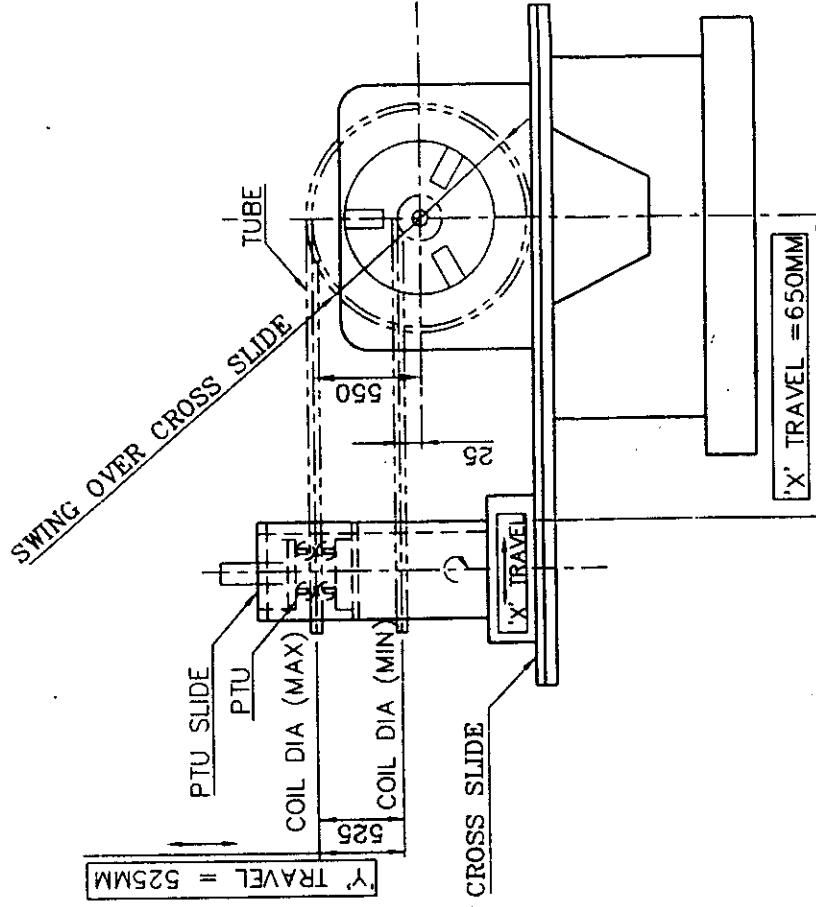
23.4 Painting of Machine / Electrical Panels : RAL 6011 Apple Green

23.5 Total weight of the machine

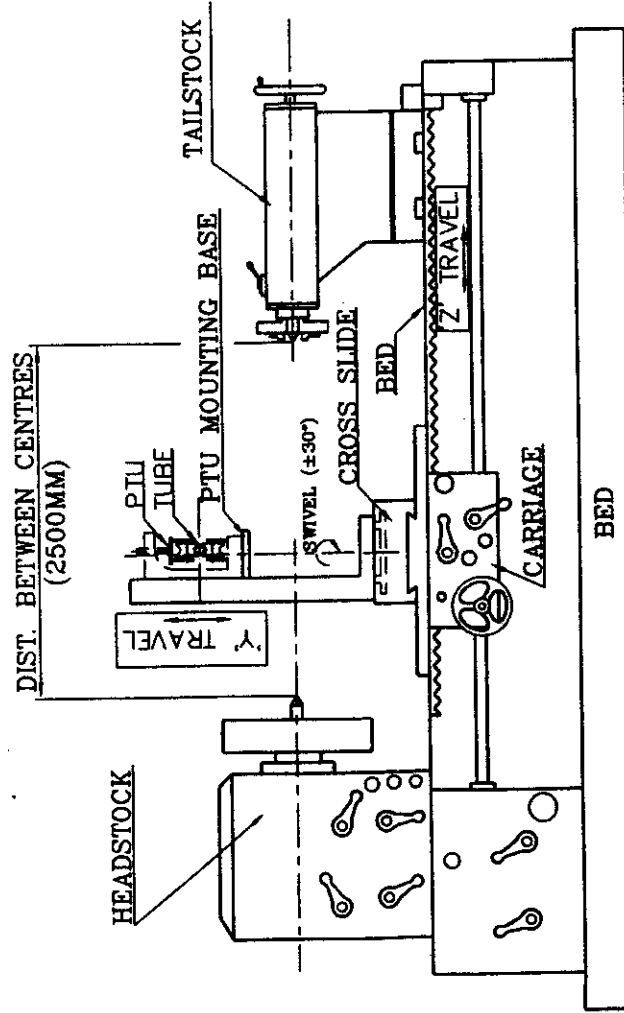
23.6 Weight of heaviest part of machine

23.7 Weight of the heaviest assembly / sub-assembly of the Machine

23.8 Dimensions of largest part/ sub-assembly/ assembly of the machine



'X' TRAVEL -> 650 MM FROM LATHE AXIS TO FRONT FACE OF PTU



PTU -> PRE TENSIONING UNIT

-> TOTAL HEIGHT OF PTU = 500 MM

-> PTU MOUNTING BASE SIZE = 350 MM X 350 MM

-> DIST. BETWEEN PTU BASE & TUBE CENTRE = 125 MM (APPROX)

'Y' TRAVEL -> 525 MM (25 TO 550 MM FROM LATHE AXIS - W.R.T TUBE CENTRE)

## SCHEMATIC ARRANGEMENT OF COILING LATHE

ANNEXURE TO SPECIFICATION No. ATP: TM:501:SG:176 Dt. 06-11-2006

DRN: V.RAMESH KUMAR

CHD: *[Signature]*

APPD: *[Signature]*

DATE: 08/11/06





# **CAPITAL PURCHASE & SP/MM/FB**

(To be filled and submitted along with Offer)

**BHBL Commercial Terms and Conditions for Import Supplies**

	Vendor's Confirmation / Comments
Technical confirmation to BHBL's Specification as called for in BHBL Format shall be furnished. If needed additional sheets shall be used.	
Prices shall be quoted item wise only as per the model format enclosed.	
Prices shall be quoted on <b>"FIRM PRICE"</b> basis only.	
Validity of offer shall be for a minimum period of 120 days from the date of Tender opening	
Delivery period from the date of Letter of Intent shall be clearly mentioned in the offer.	
Liquidated damages @ ½% per week: subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
Following Risk Purchase clause shall be applicable: The Purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated or if the same were not available, the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
Payment terms for Foreign vendor (Principal): 80% value of the goods will be paid through an irrevocable Letter of Credit established by our bankers. Balance 20% will be paid against acceptance / commissioning of goods for which supplementary invoice and PBG for 10% of total Purchase order value shall be submitted. All bank charges outside India are to vendor's account only.	
Payment terms for Indian Agent: Indian Agency commission, if any, shall be clearly specified in the offer and the same will be paid in Indian Rupees against acceptance / commissioning of the equipment.	
Erection / commissioning: Erection / commissioning shall be done at free of cost.	
Submission of Performance Bank Guarantee (PBG): Vendor should provide a performance bank guarantee (PBG) for 10% of the total Purchase order value valid for a period of 12 months from the date of commissioning (or) 18 months from the date of dispatch <u>whichever is later</u> with an additional claim period of 2 months. This PBG shall form part one of the documents for effecting the balance 20% payment.	
Part Shipment or Transshipment is not permissible	
In case of any short shipment in the main equipment / spares, where separate rates are not available in the contract, the customs duty levied on such supplies, shall be borne by the supplier / Indian agent.	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHBL, Trichy basis.	
Equipment will be inspected and proved at vendor's works prior to dispatch. However final inspection and acceptance of equipment will be after installation at BHBL, Trichy.	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning.	
The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost.	
Offers should be submitted only in sealed cover super-scribing clearly the Enquiry reference and due date.	

## **NOTE:**

- It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- Your specific acceptance to our Payment terms, LD Risk Purchase Clause & Submission of PBG for 10% order value are essential for consideration of your offer. Other wise your offer is liable for rejection.

Signature & Office seal of the vendor

BHEL ENQUIRY NO & DATE

VENDOR OFFER REF NO. &

**MODEL PRICE BID FORMAT FOR FOREIGN VENDORS**

S.No. Description of Item

Unit Qty Rate Value

Ex-works Value  
Packing & Forwarding Charges, if  
any  
FOB charges, if any  
FOB Value  
Approximate Freight charges  
Approximate Transit Insurance  
charges  
Approximate Gross Weight, Nett  
Weight & Dimensions of the  
Consignment

Signature & Seal of Vendor

**NOTE: The Price bid should submitted strictly in line with the above FORMAT.  
(Model Price Bid Format for Indigenous vendors on the reverse)**

**CAPITAL PURCHASE**  
(To be filled and submitted alongwith Technical Bid)

S. N o	BHEL Commercial Terms and Conditions for Indigenous Supplies	Vendor's acceptance
1	Prices shall be quoted item wise only. An unpriced copy shall be submitted alongwith technical bid.	
2	Prices shall be quoted only on F.O.R / Despatching station basis including Packing & Forwarding charges, if any.	
3	Prices shall be quoted on "FIRM PRICE" basis only.	
4	% Of ED applicable shall be clearly mentioned in the offer. If ED is applicable, confirmation shall be given that ED invoice will be provided.	
5	% of Taxes applicable including surcharge shall be clearly mentioned in the offer	
6	Validity of offer shall be for a minimum period of 120 days from the date of Tender opening	
7	Delivery period from the date of Letter of Intent shall be clearly mentioned in the offer.	
8	Liquidated damages @ ½% per week subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
9	Following Risk Purchase clause shall be applicable: The purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated or if the same were not available, the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
10	<b>Payment terms:</b> <ul style="list-style-type: none"> <li>100% payment will be made within 45 to 90 days after receipt and acceptance / commissioning of goods at BHEL, and also against submission of PBG for 10% of the total Purchase order value. (or )</li> <li>80% value of the goods will be paid within 45 to 90 days against dispatch documents negotiated through bank. Balance 20% will be paid against acceptance / commissioning of goods for which supplementary invoice and PBG for 10% of total Purchase order value are to be submitted. All bank charges are to vendor's account only.</li> </ul> <b>Payment terms for Erection / commissioning charges:</b> <ul style="list-style-type: none"> <li>100% of the Erection / commissioning charges (in case contract involves erection/commissioning) shall be paid only on completion of such erection / commissioning at BHEL.</li> </ul>	
11	<b>Submission of Performance Bank Guarantee (PBG):</b> Vendor should provide a performance bank guarantee(PBG) for 10% of the total Purchase order value valid for a period of 12 months from the date of commissioning (or) 18 months from the date of dispatch whichever is later with an additional claim period of 2 months. This PBG shall form one of the documents for effecting payment. The PBG shall be submitted in non-judicial stamp paper value of not less than Rs.80/- issued by any one of the following banks who is a member bank in our consortium of banks. 1) State Bank of India, 2) State Bank of Hyderabad, 3) State Bank of Travancore, 4) State Bank of Mysore, 5) Canara bank, 6) Bank of Baroda, 7) Punjab National bank, 8) Deutsche Bank, 9) HDFC Bank, 10) Standard Chartered Bank, 11) Citi Bank, 12) Standard Chartered Grindlays Bank 13) Bank of America and 14) Any one of the Nationalised banks.	
12	Offers should be submitted only in sealed cover super-scribing clearly the Enquiry reference and due date.	

Signature &amp; Office seal of the vendor

BHEL ENQUIRY NO & DATE

VENDOR OFFER REF NO. &  
DATE

**MODEL PRICE BID FORMAT FOR INDIGENOUS VENDORS**

S.No. Description of Item

Unit Qty Rate Rs Value Rs

Ex-works Value Rs

Packing & Forwarding charges, if  
any

FOR / Despatching Stamp value Rs

% of Excise Duty (extra inclusive)

% of TAX (TNGST with FORM-17 or  
CST with C-FORM)

% of TAX (TNGST without FORM-  
17 or CST without C-FORM)

Surcharge on Tax

% of Any other Tax applicable other  
than the above

Approximate Freight charges Rs

Approximate Transit Insurance  
charges Rs

Approximate Gross Weight, Nett

Weight & Dimensions of the  
Consignment

Signature & Seal of Vendor

**NOTE:** The Price bid should submitted strictly in line with the above FORMAT.

**CAPITAL PURCHASE : MM / FE**

**COMMERCIAL TERMS AND CONDITIONS**

**1.0 QUOTATIONS**

The Bidders shall submit the offer in **TWO INNER ENVELOPES** as indicated below which shall be sealed in one outer envelope.

Envelope I This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked **"Part I - Technical and commercial bid"**, indicating Enquiry No., Due Date and Address & Reference of the Bidder.

Envelope II This sealed envelope should contain price details. This envelope should be clearly marked **"Part II - Price bid"**, indicating Enquiry No., Due Date and Address & Reference of the Bidder.

Both the envelopes ( Part I & II) shall be put in one cover, duly sealed, superscribing as Part I and Part II of Enquiry No., due date of opening and the address and reference of the Bidder.

The above offer should reach this office on or before the due date by 14.00 Hrs (IST). Late offers will not be considered.

Tender should not be addressed to any Individual's name but only by designation to:

**DGM / CAPITAL PURCHASE & SP/MM/FB  
BHARAT HEAVY ELECTRICALS LIMITED  
HIGH PRESSURE BOILER PLANT  
TIRUCHIRAPALLI - 620 014  
TAMIL NADU, INDIA**

Contd 2/-

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Tenders should be free from **CORRECTION AND ERASURES**, Corrections if any, must be attested. All amount shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in **ENGLISH** and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in **ENGLISH** or otherwise, the offers will not be considered.

## **2.0 PART I (TECHNICAL & COMMERCIAL BID)**

### **2.1 Technical**

This part shall include / indicate the following :

- 2.1.1. Offer should contain complete scope of supply with all technical details, specifications, delivery and other commercial terms and conditions.
- 2.1.2. Point by point confirmation for the Technical Specification enclosed to be provided. if there are any deviation, the same should be clearly specified. Offers received without confirmation to our specification will be rejected.
- 2.1.3. List of customers to whom same or similar equipment have been supplied along with performance certificates to be enclosed.
- 2.1.4. Relevant catalogues to be attached
- 2.1.5. List of spares parts (with part numbers) for two years operation and maintenance should be attached.
- 2.1.6. Information on shipping weight and cubage (length, width & height) to be provided.
- 2.1.7. Incase of foreign bidder offer, the Principal's technical offer should be enclosed.

### **2.2 Commercial**

This part shall include / indicate the following :

- 2.2.1. Port of shipment / Station of despatch
- 2.2.2. Terms of payment
- 2.2.3. Taxes & duties applicable.
- 2.2.4. Delivery Schedule

Contd 3/-

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- 2.2.5. Offer validity
- 2.2.6. Country of origin
- 2.2.7. Percentage of agency commission if any along with a copy of Agency agreement.
- 2.2.8. A copy of "Un-Priced Part II" i.e., a copy of the Price Bid without the price details to be enclosed.

### 3.0 PART II (PRICE- BID)-

This part should contain the schedule of price particulars and to be co-related to the technical details provided in Part I.

### 4.0 OPENING OF TENDERS

The Part I - Technical & commercial bid alone would be opened on the Tender opening date.

The Part II - Price bid of Technically suitable Bidders alone would be opened. The Technically suitable Bidders would be informed about the tender opening date.

Clarifications if any required by BHEL for Technical evaluation would be sought from Bidders before opening of Part II - price bid.

### 5.0 GENERAL

- 5.1. Incomplete offers will not be considered.
- 5.2. Fixed price: Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order. A bid submitted with an adjustable price will be treated as non - responsive and rejected. Prices shall be written in words and figures. In the event of difference, the price in words shall be valid and binding. Unit prices shall be considered correct in the event of any discrepancy with regard to total price.
- 5.3. Bid currency: Indian bidders should submit the prices only in Indian Rupees. Foreign bidders may submit their bid in their home currency.
- 5.4. Terms of Delivery: Bidders are required to quote their best delivery period. Foreign Bidders should submit their offer for net FOB Nearest Sea / Air Port. Indian Bidders should submit their offer for FOR Despatching station.

Contd 4/-

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5.5. **Taxes and Duties :** All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & TNGST No / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties. Our T.N.G.S.T No. 356005 Dt. 04-04-1995, C.S.T. No. 239383 dt. 11-06-1991.

5.6. **Validity :** The offers for main equipment and spares shall be kept open for acceptance for 120 days (one hundred and twenty days) from the date of opening of the tender

(Part.I).

5.7. **Terms of Payment :**

5.7.1. **Indian Bidders**

5.7.1.1. The preferred payment terms are indicated below :

5.7.1.2. 100% payment, within 45 to 90 days, after receipt / acceptance / commissioning of equipment at BHEL, Tiruchi, against submission of 10% Performance Bank Guarantee on total order value.

or

5.7.1.3. 80% payment against documents through bank within 45 to 90 days, (after pre-despatch inspection) and balance 20% payment after receipt / acceptance / commissioning of the equipment 45 to 90 days, 45 to 90 days against submission of 10% Performance Bank Guarantee on total order value.

5.7.2. **Foreign Bidders**

An Irrevocable Letter of Credit shall be established for 80% of the value of the goods. Balance 20% shall be paid on receipt / acceptance / commissioning of the goods at BHEL against submission of Performance Bank Guarantee for 10% on total order value. All bank charges outside India are to Vendor's account.

5.8. **Performance Bank Guarantee (PBG):** The Bidder, in the event of an order, should furnish a bank Guarantee from an Indian Bank approved by BHEL, at no extra cost in a proforma prescribed by BHEL, alongwith the order, for an amount equivalent to 10% (Ten percent) of the value of the contract. The PBG shall be valid for period of 18 months from the date of dispatch or 12 months from the date of receipt / acceptance / commissioning of the equipment at BHEL, Tiruchi which ever is later with additional claim period of 2 months.

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The Performance Bank Guarantee shall be obtained from any one of the following banks who is a member bank in our consortium of banks.

- 1) State Bank of India, 2) State Bank of Hyderabad, 3) State Bank of Travancore, 4) State Bank of Mysore, 5) Canara Bank, 6) Bank of Baroda, 7) Punjab National Bank, 8) Deutsche Bank, 9) HDFC Bank, 10) Standard Chartered Bank, 11) Citi Bank, 12) Standard Chartered Grindlays Bank, & 13) Bank of America or any Nationalised Bank

- 5.9. **Liquidated damages :** It is clearly understood among the parties to the contract the "Time is the essence of the contract". Therefore, the delivery of the goods specified in the purchase order should be made within the time prescribed. Where the seller supplies or despatches the goods, beyond the delivery period specified the purchaser will have no obligation to accept the goods. If accepted liquidated damages at the rate of 1/2% of the value of goods delayed for each week of delay subject to a maximum of 15% of the order value will be levied.
- 5.10. **Risk purchase :** Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefor. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.
- 5.11. **Agency commission :** In case of Foreign Bidders, agency commission if any, payable to their Indian Agents, shall shown separately in the Offer. This will be paid by us in India, in Indian Rupees, on satisfactory completion of the Contract. Copies of current Agency Agreement / Authorization Letter in respect of Agency Commission shall be furnished alongwith offer. For calculation of Rupee equivalent of Agency Commission, exchange rate as prevailing on the date of offer will be taken.
- 5.12. **Test certificates / Operating and Maintenance manuals :** The Bidders shall clearly mention in their offer, that Test Certificates and Operating Maintenance Manuals, etc., as called for in the Technical Specification, in the required number of copies will be provided at no extra cost.

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- 5.13. **Modvat credit :** (for Indian Bidders only) If any Excise Duty is payable, the chapter head / sub-head reference and the rate of the duty should be quoted. If the tender is availing **MODVAT** credit for his input materials, the effect of proforma credit should be passed on to the purchaser.
- 5.14. **Packing and marking :** The Supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.
- 5.15. **BHEL** shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against **BHEL**.