



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT

<b>TITLE :</b> Supplying of Cabin roller for HTF and CDF furnaces.	Phone: +91 431 2577645/2577331 Fax : +91 431 252 07 19 Email : <a href="mailto:balasund@bheltry.co.in">balasund@bheltry.co.in</a> <a href="mailto:srchandran@bheltry.co.in">srchandran@bheltry.co.in</a> Web : <a href="http://www.bhel.com">www.bhel.com</a> , <a href="http://tenders.gov.in">http://tenders.gov.in</a>
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	<b>Reference Number:</b> <b>Enquiry 2680800038</b>	<b>Enquiry Date:</b> <b>30-09-08</b>	<b>Due date for submission of quotation: 25-11-08.</b>
You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order			

BHEL/Trichy is looking for supply of Cabin roller for HTF and CDF furnaces, as per the technical specification . The vendors fulfilling the pre-Qualification Criteria alone need to apply and shall be considered.

### ***Pre-Qualifying criteria for the Vendors***

1.Vendors should have supplied for minimum 3 Ton capacity of High Temperature Furnace with roller hearth and roller for 1000 °C furnace operating temperature. Inadequacy of above experience will call for summarily rejecting the offers.

2.At least one high temp roller hearth furnace / high temp rollers for high temp roller hearth furnaces should have been supplied and commissioned for the operation of 1000 °C, till date and the details of the customers are to be provided

(OR)

If the vendors is not the furnace manufacturer for such application, the vendor shall have adequate experience in supplying such high temperature rollers for the capacity of 3 Ton and above furnace needs only to offer.

BHEL commercial terms & conditions with Price Bid format and Bank Gurantee formats can be downloaded from BHEL web site <a href="http://www.bhelcom">http://www.bhelcom</a> or from the Government tender website <a href="http://tenders.gov.in">http://tenders.gov.in</a> (public sector units) Bharath Heavy Electricals Limited) under enquiry reference “2680800038”	
Tenders should reach us before 14:00 hours on the due date Technical bid will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.	Yours faithfully, <b>For Bharath Heavy Electricals Limited</b>  Manager / Capital Purchase/ Manufacturing



**ENQUIRY**  
(INDIGENOUS)

# BHARAT HEAVY ELECTRICALS LIMITED

( A Government of India Undertaking )  
HIGH PRESSURE BOILER PLANT  
PURCHASE DEPARTMENT - FOSSIL BOILERS  
THIRUCHIRAPALLI - 620014  
TAMILNADU, (INDIA)

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429-002/A

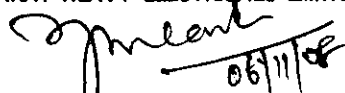
PHONE : 2577645  
GRAMS : BHARATELEC  
FAX NO: 2520719  
E-mail: balasund@bheltry.co.in  
Web:

Enquiry No	Enquiry Date	Due Date for Quotation
2680800038 - 79	30.09.2008	25.11.2008
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	<p>CDF MAIN DRIVE ROLLER DRAWING NO. 3M-18B-06-12654 QUANTITY = 1 NO. Specification for cabin Roller of Roller Hearth CDF FURNACE Application: To support the boiler tubular coil and to convey the coil from infeed to discharge at Temperature of the furnace 1100 degree Celsius. Scope of supply: Supply &amp; manufacturing includes casting of roller and forging of shaft, welding the shaft, machining and fabrication as per drawing and the entire assembled rollers will be inspected for performance. 1. Material: Suppliers scope 2. Material specification. A. Sleeves : IS4522 GR-11/ASTM A297 GR-HN having the following chemical composition.</p> <table><tr><td>%C</td><td>%Cr</td><td>%Ni</td><td>%Si</td></tr><tr><td>0.2~ 0.5</td><td>19.0~ 23.0</td><td>23.0~ 27.0</td><td></td></tr></table> <p>2.0Max %Mn %Mo %S %P 1.00Max 0.50Max 0.050Max 0.050Max C. Shafts: IS-7283 GR-45 C8 D. Plates: IS-2062 GR-FE419WB 3. Sequence of manufacturing and assembly: a. The drive roller as per the material specification shall be manufactured by melting of virgin charge with low sulphur and phosphorous content in induction melting furnace to achieve desired chemical composition. Ladle deoxidation with argon purging. b. The casting will be done by centrifugal casting furnace process /equivalent process where the molten metal will be introduced into the mold which will be rotated during solidification of the casting. The centrifugal force produced by rotation will be</p>	%C	%Cr	%Ni	%Si	0.2~ 0.5	19.0~ 23.0	23.0~ 27.0		NO	1.000	1.00	29.11.08
%C	%Cr	%Ni	%Si										
0.2~ 0.5	19.0~ 23.0	23.0~ 27.0											

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**

  
06/11/08  
MANAGER / PURCHASE  
(FOSSIL BOILERS)



# BHARAT HEAVY ELECTRICALS LIMITED

( A Government of India Undertaking )  
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2680800038 / 30.09.2008

large compared with normal hydrostatic force and during pouring, the force will be used to distribute liquid metal over the outer surface of the mould, further, there will be a development of high pressure in the casting during freezing. This is in conjunction with directional solidification, will assist feeding and will accelerate the separation of non metallic inculcation and precipitated gases.

c. Casting would be duly fettled and visually inspected for surface

defects prior to machining. Machining will be done in Precision machines and all burs and sharp edges will be removed. Deviations if any for untoleranced dimensions and mass shall be governed by IS: 4897-76

d. Heat treatment shall be carried out as per the required cycle to attain the desired mechanical properties and HT graph chart as to be submitted during inspection to BHEL engineer and submitted along with supply.

e. The drive roller shall be manufactured by making ingots of above grade and subsequent forging of rounds of desired dimensions after proper normalizing treatment and with at least 50% reduction. Care would be taken that the flow of grains for the rounds is unidirectional along the entire length during forging operation.

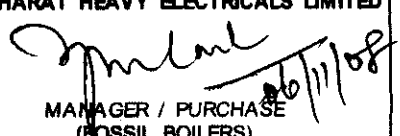
f. Normalizing of the rounds will be done in electrically operated Heat Treatment furnace with proper homogenization to ensure refined grain structure and to remove forge stresses. This would be followed by surface conditioning and rough machining.

g. After HT the roller will be checked by UST using 4MHz probe to detect all longitudinal and transverse defects, such as cracks, pipes etc, which are harmful. Complete loss of back wall echo and defect echo of height exceeding 20% of the original back wall echo will be considered unacceptable. After ensuring that the material is perfect the rollers will be machined as per drawing.

h. After the vendors checks from your end the components shall be offered to BHEL for inspection along with your internal inspection reports prior to welding of end supports. Fabrication of end supports

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Yours faithfully,  
For **BHARAT HEAVY ELECTRICALS LIMITED**

  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



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2680800038 / 30.09.2008

will be carried out with the help of jigs and fixtures after cutting the V groove to ensure perfect alignment and trueness.

i. Welding will be carried out with quality electrodes .During welding the beads will be weaved for uniform deposition and slag will be thoroughly cleaned between passes.

#### 4.Quality Assurance:

a. The input material for the foundry will be checked for chemical composition and verified .After the necessary checks material will be fettled and finished prior to further processing.

The weld area will be checked for cracks by dye penetration examination. In case of any raw material from outside if used for manufacturing will also be subjected to checks for chemical composition and for fractures and grain structures. The material after forging will once again be checked for fractures and will be stress relived prior to machining.

b. Periodical stage inspection may be carried out by our BHEL authorized personnel with prior intimation.

Sub-Assembly Inspection: Individual components shall be inspected after machining to ensure that the material finished is within specified tolerance and will not face any problem during assembly stage.

#### c. Test certificate:

Necessary test certificate from Govt. approved Test Laboratory shall be provided for material specification UT,LPI,HT etc as applicable to substantiate the quality of material for trouble free operation.

#### 5.Guarantee Certificate:


The materials supplied by us will be guarantee for satisfactory performance against any mfg defects, raw material defects, bad workmanship etc, for a period of 18 months from the date of dispatch or 12 months from the date of commissioning whichever is earlier. The guarantee certificate to the above will accompany the dispatch documents.

The supplier should provide point to point confirmation in the above scope / specifications along with offer Otherwise offer will not be considered.

CDF MAIN DRIVE ROLLER

The offers should reach us before the time of opening of tenders.  
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Late tenders are liable to be rejected.

Yours faithfully,  
For **BHARAT HEAVY ELECTRICALS LIMITED**

  
06/11/08  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



# BHARAT HEAVY ELECTRICALS LIMITED

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HIGH PRESSURE BOILER PLANT  
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THIRUCHIRAPALLI - 620014  
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2680800038 / 30.09.2008

3M-18B-06-12654

20 NO 5.000 5.00 29.11.08

DRIVE ROLLER DRAWING NO.

3M-18B-06-12653

Quantity = 5nos

Specification for cabin Roller of Roller Hearth  
CDF FURNACE

Application: To support the boiler tubular coil  
and to convey the coil  
from infeed to discharge at Temperature of the  
furnace 1100 degree  
Celsius.

Scope of supply:

Supply & manufacturing includes casting of  
roller and forging of shaft,  
welding the shaft, machining and fabrication as  
per drawing and the  
entire assembled rollers will be inspected for  
performance.

1.Material:Suppliers scope

2.Material specification.

A.Sleeves :IS4522 GR-11/ASTM A297 GR-HN  
having the following chemical  
composition.

%C	%Cr	%Ni	%Si
0.2~ 0.5	19.0~ 23.0	23.0~ 27.0	2.0Max
%Mn	%Mo	%S	%P

1.00Max 0.50Max 0.050Max 0.050Max

C.Shafts:IS-7283 GR-45 C8


D.Plates: IS-2062 GR-FE419WB

3.Sequence of manufacturing and assembly:

a.The drive roller as per the material  
specification shall be  
manufactured by melting of virgin charge with  
low sulphur and  
phosphorous content in induction melting  
furnace to achieve desired  
chemical composition. Ladle deoxidation with  
argon purging.  
b.The casting will be done by centrifugal  
casting furnace process  
/equivalent process where the molten metal will  
be introduced into the  
mold which will be rotated during solidification  
of the casting. The  
centrifugal force produced by rotation will be  
large compared with  
normal hydrostatic force and during pouring, the  
force will be used to  
distribute liquid metal over the outer surface of  
the mould, further,  
there will be a development of high pressure in  
the casting during  
freezing. This is in conjunction with directional  
solidification, will  
assist feeding and will accelerate the separation  
of non metallic  
inclusion and precipitated gases.  
c. Casting would be duly fettled and visually

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tenderers who may like to be present.  
Late tenders are liable to be rejected.

Yours faithfully,  
For BHARAT HEAVY ELECTRICALS LIMITED

  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



# BHARAT HEAVY ELECTRICALS LIMITED

( A Government of India Undertaking )  
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THIRUCHIRAPALLI - 620014  
TAMILNADU (INDIA)

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2680800038 / 30.09.2008

inspected for surface defects prior to machining. Machining will be done in Precision machines and all burs and sharp edges will be removed. Deviations if any for untoleranced dimensions and mass shall be governed by IS: 4897-76

d. Heat treatment shall be carried out as per the required cycle to attain the desired mechanical properties and HT graph chart as to be submitted during inspection to BHEL engineer and submitted along with supply.

e. The drive roller shall be manufactured by making ingots of above grade and subsequent forging of rounds of desired dimensions after proper normalizing treatment and with at least 50% reduction. Care would be taken that the flow of grains for the rounds is unidirectional along the entire length during forging operation.

f. Normalizing of the rounds will be done in electrically operated Heat Treatment furnace with proper homogenization to ensure refined grain structure and to remove forge stresses. This would be followed by surface conditioning and rough machining.

g. After HT the roller will be checked by UST using 4MHz probe to detect all longitudinal and transverse defects, such as cracks, pipes etc, which are harmful. Complete loss of back wall echo and defect echo of height exceeding 20% of the original back wall echo will be considered unacceptable. After ensuring that the material is perfect the rollers will be machined as per drawing.

h. After the vendors checks from your end the components shall be offered to BHEL for inspection along with your internal inspection reports prior to welding of end supports. Fabrication of end supports will be carried out with the help of jigs and fixtures after cutting the V groove to ensure perfect alignment and trueness.


i. Welding will be carried out with quality electrodes. During welding the beads will be weaved for uniform deposition and slag will be thoroughly cleaned between passes.

4. Quality Assurance:

a. The input material for the foundry will be checked for chemical composition and verified. After the necessary

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Yours faithfully,  
For BHARAT HEAVY ELECTRICALS LIMITED

  
26/11/08  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



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2680800038 / 30.09.2008

checks material will be fettled and finished prior to further processing. The weld area will be checked for cracks by dye penetration examination. In case of any raw material from outside if used for manufacturing will also be subjected to checks for chemical composition and for fractures and grain structures. The material after forging will once again be checked for fractures and will be stress relived prior to machining.

b. Periodical stage inspection may be carried out by our BHEL authorized personnel with prior intimation.

Sub-Assembly Inspection: Individual components shall be inspected after machining to ensure that the material finished is within specified tolerance and will not face any problem during assembly stage.

c. Test certificate:  
Necessary test certificate from Govt. approved Test Laboratory shall be provided for material specification UT,LPI,HT etc as applicable to substantiate the quality of material for trouble free operation.

5.Guarantee Certificate:  
The materials supplied by us will be guarantee for satisfactory performance against any mfg defects, raw material defects, bad workmanship etc, for a period of 18 months from the date of dispatch or 12 months from the date of commissioning whichever is earlier. The guarantee certificate to the above will accompany the dispatch documents.

The supplier should provide point to point confirmation in the above scope / specifications along with offer. Otherwise offer will not be considered.


CDF CABIN ROLLER  
3M-18B-06-12653

30 NO 10.000 10.00 29.11.08

CABIN ROLLER DRAWING NO.  
3M-18B-07-13506  
QUANTITY = 10 NOS  
Specification for cabin Roller of Roller Hearth HTF FURNACE  
Application: To support the boiler tubular coil and to convey the coil from infeed to discharge at Temperature of the furnace 1100 degree Celsius.

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Yours faithfully,  
For **BHARAT HEAVY ELECTRICALS LIMITED**

  
06/11/08  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



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HIGH PRESSURE BOILER PLANT  
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2680800038 / 30.09.2008

## Scope of supply:

Supply & manufacturing includes casting of roller and forging of shaft, welding the shaft, machining and fabrication as per drawing and the entire assembled rollers will be inspected for performance.

### 1. Material: Suppliers scope

### 2. Material specification.

A. Sleeves : IS4522 GR-11/ASTM A297 GR-HN having the following chemical composition.

%C	%Cr	%Ni	%Si
0.2~ 0.5	19.0~ 23.0	23.0~ 27.0	2.0Max
%Mn	%Mo	%S	%P
1.00Max	0.50Max	0.050Max	0.050Max

C. Shafts: IS-7283 GR-45 C8

D. Plates: IS-2062 GR-FE419WB

### 3. Sequence of manufacturing and assembly:

a. The drive roller as per the material specification shall be

manufactured by melting of virgin charge with low sulphur and

phosphorous content in induction melting furnace to achieve desired

chemical composition. Ladle deoxidation with argon purging.

b. The casting will be done by centrifugal casting furnace process

/equivalent process where the molten metal will be introduced into the

mold which will be rotated during solidification of the casting. The

centrifugal force produced by rotation will be large compared with

normal hydrostatic force and during pouring, the force will be used to

distribute liquid metal over the outer surface of the mould, further,

there will be a development of high pressure in the casting during

freezing. This is in conjunction with directional solidification, will

assist feeding and will accelerate the separation of non metallic

inclusion and precipitated gases.

c. Casting would be duly fettled and visually inspected for surface

defects prior to machining. Machining will be done in Precision machines

and all burs and sharp edges will be removed. Deviations if any for

untoleranced dimensions and mass shall be governed by IS: 4897-76

d. Heat treatment shall be carried out as per the required cycle to

attain the desired mechanical properties and HT graph chart as to be

submitted during inspection to BHEL engineer and submitted along with

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Yours faithfully,  
For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,





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supply.

e. The drive roller shall be manufactured by making ingots of above grade and subsequent forging of rounds of desired dimensions after proper normalizing treatment and with at least 50% reduction. Care would be taken that the flow of grains for the rounds is unidirectional along

the entire length during forging operation.

f. Normalizing of the rounds will be done in electrically operated Heat

Treatment furnace with proper homogenization to ensure refined grain

structure and to remove forge stresses. This would be followed by

surface conditioning and rough machining.

g. After HT the roller will be checked by UST using 4MHz probe to detect

all longitudinal and transverse defects, such as cracks, pipes etc,

which are harmful. Complete loss of back wall echo and defect echo of

height exceeding 20% of the original back wall echo will be considered

unacceptable. After ensuring that the material is perfect the rollers

will be machined as per drawing.

h. After the vendors checks from your end the components shall be

offered to BHEL for inspection along with your internal inspection

reports prior to welding of end supports.

Fabrication of end supports

will be carried out with the help of jigs and

fixtures after cutting the

V groove to ensure perfect alignment and trueness.

i. Welding will be carried out with quality

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examination. In case of any raw

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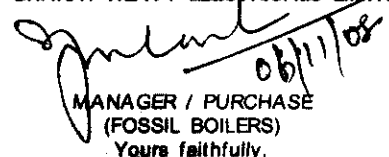
fractures and will be stress relieved prior to machining.

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06/11/08  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
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b. Periodical stage inspection may be carried out by our BHEL authorized personnel with prior intimation.  
Sub-Assembly Inspection: Individual components shall be inspected after machining to ensure that the material finished is within specified tolerance and will not face any problem during assembly stage.

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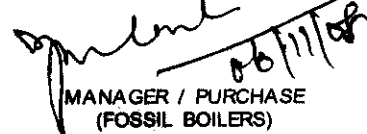
HTF CABIN ROLLER  
3M-18B-07-13506

## General Note:

- 1.,,PLEASE SUBMIT YOUR DETAILED OFFER IN TWO PART BID SYSTEM  
ie. TECHNICAL AND COMMERCIAL (UNPRICED) OFFER IN ONE SEALED COVER AND PRICED OFFER IN ANOTHER SEPARATE SEALED COVER.
- 2.,,POINT-TO-POINT CONFIRMATION TO BHEL'S SPECIFICATION AND COMMERCIAL TERMS & CONDITIONS SHOULD BE PROVIDED IN ANNEXURE-II, WITHOUT WHICH, THE OFFER WILL NOT BE CONSIDERED
- 3.,,PAYMENT TERMS STRICTLY AS PER OUR PAYMENT TERMS INDICATED IN THE ANNEXURE. OTHER PAYMENT TERMS ARE NOT ACCEPTABLE.
- 4.,,OFFER a) DEMANDING ADVANCE PAYMENT, b) NON-CONFORMANCE TO PBG AND c) WITH VALIDITY OF LESS THAN 4 MONTHS WILL BE REJECTED.

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Yours faithfully,  
For BHARAT HEAVY ELECTRICALS LIMITED

  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



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2680800038 / 30.09.2008

"LD clause has to be confirmed without fail."


"Payment to vendors will be made only thro E-Payment mode"

Enclosures:

- 1.DRAWING NO.3M-18B-06-12654
- 2.DRAWING NO.3M-18B-06-12653
- 3.DRAWING NO.3M-18B-07-13506
- 4.Commercial Terms & Conditions (3 pages)
- 5.Annexure-II (1 Page)
- 6.Model Price Bid Format

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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.

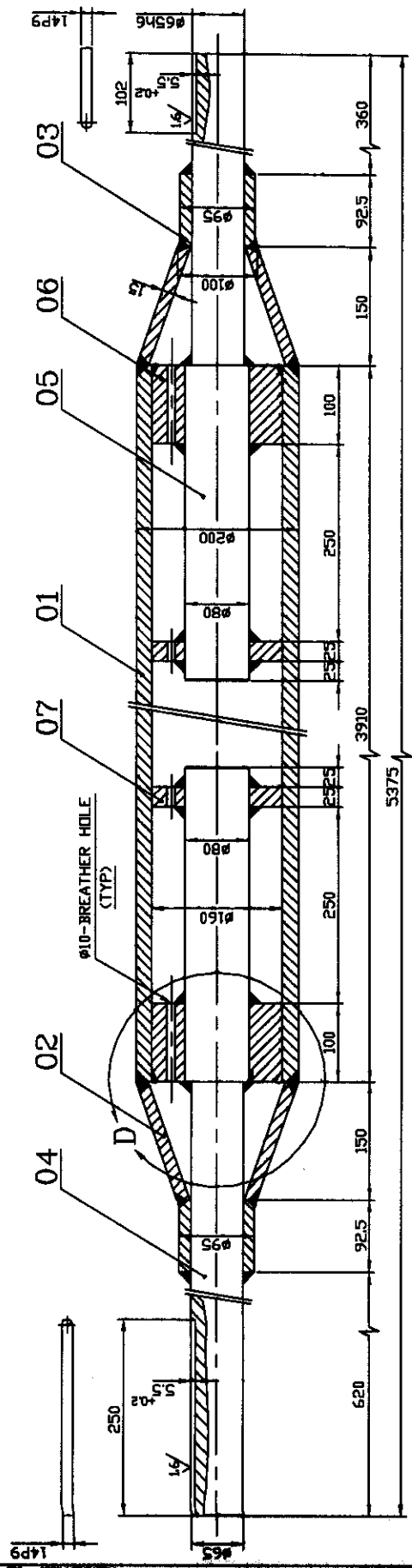
Yours faithfully,  
For BHARAT HEAVY ELECTRICALS LIMITED

  
06/09/08  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,

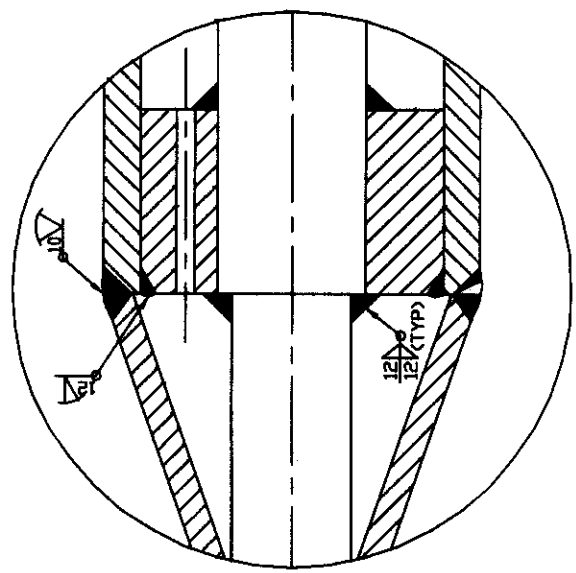
ALL DIMENSIONS ARE IN IN

6.3/1.6

065M6	-0.000	14P9	-0.018
	-0.019		-0.061



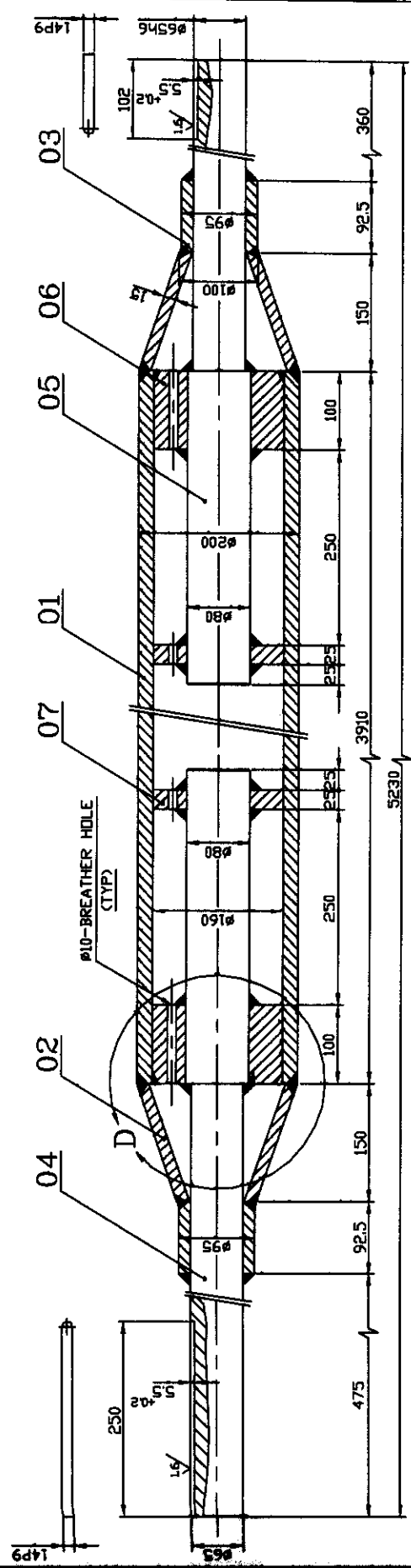
NOTE:  
ALL WELDED CONSTRUCTION



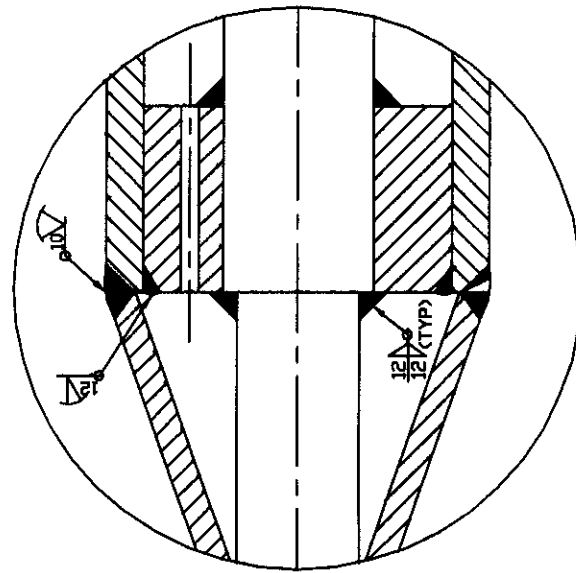
DETAIL - 'D'

02	PL. 25tx1080x01160	Fe-410W/B	IS:2062	3.9					07
02	PL. 100tx1080x01160	Fe-410W/B	IS:2062	23.6					06
01	SHAFT Ø80x1002L	45C8	IS:7283	31.5					05
01	SHAFT Ø80x1262L	45C8	IS:7283	45.0					04
02	SLEEVE Ø095x15tx93L	Gr. 11 A297	IS:4522 ASTM	5.5					03
02	TAPER SLEEVE Ø0200 (Ø100x15tx150)	Gr. 11 A297	IS:4522 ASTM	10.3					02
01	SLEEVE Ø200x20tx.....3910L	Gr. 11 A297	IS:4522 ASTM	347.0					01
				468.8					
		DESCRIPTION		MATERIAL	STANDARD	NET WT IN KGS.	DRAWING NO.	DATE	TIME
		REFERENCE			AL T E R A T I O N S		ICN REF		MODS
SCALE		BY		X. Manjandhar					
1 : 5		CHECKED							
		APPROVED							
		DATE		17.10.05					
MACHING CONTINUOUS DISCHARGE FURNACE				TYPED		VELLMAN-CONF		REV.	
TITLE:				DRAWING NO.					
MAIN DRIVE ROLLER 3M18B06121654									
(INSIDE FURNACE)				Sheet No.				Sheet No.	

ø65h6	-0.000	14P9	-0.018
	-0.019		-0.061



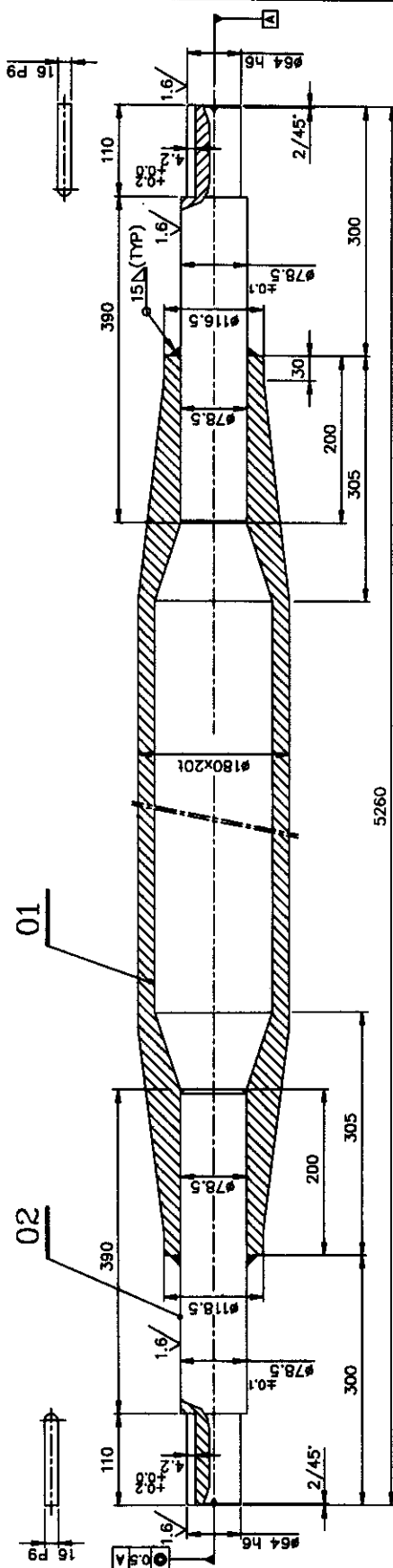
NOTE: ALL WELDED CONSTRUCTION

[illegible]

DETAIL--'D'

$$\begin{array}{r} 3.2 \\ \times 1.6 \\ \hline \end{array}$$

ø64 h6	-0.000
	-0.019
16 p9	-0.018
	-0.061



IS: 4522-Gr.11

## CHEMICAL COMPOSITION

C: 0.20-0.60%  
Cr: 18-22%  
Ni: 23-27%  
Mo: 0.5% MAX.

**NOTE: —**

FOLLOWING TESTS WILL BE CARRIED OUT.

- 1.CHEMICAL ANALYSIS.  
2.PNEUMATIC PRESSURE TEST 05Kg/CM2(g).  
3.D.P TEST FOR ALL WELD JOINTS.

2	SHAFT Ø 78.5 x 500 L	45C8	IS: 7283	34.80		02
1	ROLLER Ø 180 x 201 - 4860 L	*				01

**DESCRIPTION**

**REFERENCE:**

**SCALE** DRAWN P. A. ROSS

CHECKED [Signature]

1:5 APPROVED [Signature]

DATE 15-02-08

**MATERIAL**

**STANDARD**

**ALTERATIONS:**

**NET WT. IN KGS.**

**DEN REF**

**DRAWING NO.**

**DATE**

**SIGN.**

**MACHINE:** HIGH TEMP. SOLUTION HEAT TREAT. FURNACE

**TYPE:** VULCAN RHF.

**TITLE:**

**DRIVE ROLLER**

(MODIFIED CABIN ROLLER)

<b>DRAWING No</b>	<b>Sheet No</b>	<b>Sheet Size</b>
3M118B071	3	A4

# **CAPITAL PURCHASE**

## **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:

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

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
- 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**.
- 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 & VAT / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties.
- 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 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 against 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 10% Performance Bank Guarantee 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 despatch or **12 months** from the date of receipt / acceptance / commissioning of the equipment at BHEL, Tiruchi which ever is more, with a claim period of **two months**.



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

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 other 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.
- 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.

**For any queries / clarifications the bidders may contact us through our FAX NO. +91 431 2520719 or through e-mail [balasund@bheltry.co.in](mailto:balasund@bheltry.co.in)**

**Bharat Heavy Electricals Limited, Trichirapalli – 620 014****MM : CAPITAL PURCHASE****(To be filled and submitted along with offer )**

<b>BHEL Commercial Terms and Conditions for Indigenous Supplies</b>	<b>Vendor's Confirmation / Comments</b>
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	
<b>Prices shall be quoted item wise only as per the model format enclosed.</b>	
Prices shall be quoted on " <b>FIRM PRICE</b> " basis only. The prices should be only on <b>F.O.R / Despatching station</b> basis inclusive of <b>Packing &amp; Forwarding</b> charges if any. <b>Applicable % of ED &amp; Sales Tax , Freight &amp; Insurance, Installation &amp; Commissioning Charges should be clearly indicated.</b>	
<b>Validity of offer shall be for a minimum period of 120 days from the date of Tender opening</b>	
<b>Delivery period</b> from the date of Letter of Intent / Purchase order shall be clearly mentioned in the offer.	
<b>Liquidated damages @ ½% per week</b> subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
<b>Following Risk Purchase clause shall be applicable:</b> 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.	
<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. <b>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.</b>	
<b>Payment terms for supply portion:</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. against submission of PBG for 10% of Order value with required validity. (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 within 45 to 90 days from the date of acceptance / commissioning of goods against submission of supplementary invoice and also against submission of PBG for 10% of Order value with required validity. <b>All bank charges are to vendor's account only.</b></li> </ul>	
<b>Erection / commissioning:</b> Erection / commissioning shall be done at free of cost.	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning.	
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 BHEL,Trichy.	
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.	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
<b>Offers should be submitted only in sealed cover super-scribing clearly the Enquiry reference and due date.</b>	

**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 offer should be indicating applicable if any P&F Charges, % of ED, Sales Tax -CST or VAT, Service Tax), Freight, Insurance and Installation and Commissioning Charges etc., as per our Price Format.
- Your specific acceptance to our Payment terms, LD, Risk Purchase Clause & Submission of PBG for 10% of the order value are essential for consideration of your offer. Other wise your offer is liable for rejection.

Signature &amp; Office Seal of the vendor

**MODEL PRICE BID FORMAT FOR INDIGENOUS VENDORS**

S.No.	Description of Item	Unit	Qty	Rate	Value
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Ex-work Value :

Packing & Forwarding Charges, If any :

FOR /Dispatching Station value Rs. :

% Of Excise Duty (extra or inclusive) :

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

% Of TAX (TNGST without FORM-17 or  
CST with C-FORM) :

% Of Any other Tax applicable other  
than the above :

Approximate Freight charges Rs. :

Approximate Transit Insurance charges Rs. :

Approximate Gross Weight, Net. Weight &  
Dimensions of the Consignment :

Signature & Seal of Vendor

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