

**General Note: BHARAT HEAVY ELECTRICALS LIMITED**

Page:1/2

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

PHONE : 2577731  
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 E-mail :  
 Web :

429-002/A

<b>OFFICE COPY</b>	<b>Collective No.</b>	<b>Enquiry Date</b>	<b>Due Date For Quotation</b>
	1701301433	04.10.2013	11.11.2013
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	962600880000 Feeder coal flow monitor Assy.	NO	199.000	199.00	30.01.14

**General Note:**

- 1) The tender will be processed in three part bid as per the enclosed terms and conditions as per Annexure-A, Annexure-B & Annexure-C
- 2) All the supporting documents are to be submitted along with the offer as required in Annexure-A, Annexure-B & Annexure-C
- 3) Pointwise compliance to Specification TCI:267/STD/REV.01 and Packing Procedure QA:CI:STD:PR:04/Rev 02 is mandetory for technical evaluation of offer.
- 4) Vendor has to submit vendor quality plan in BHEL format for approval

**Enclosures:**

- 1) Annexure - A
- 2) Annexure - B
- 3) Annexure - C
- 4) Specification - TCI:267/STD/Rev.01
- 5) Packing Procedure - QA:CI:STD:PR:04/Rev 02
- 6) BHEL quality Plan format

**"LD clause has to be confirmed without fail."****PR Links**

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
962600880000	75050293	00010	75.000	U6/1619	U6/1619
962600880000	75050293	00020	75.000	U6/1619	U6/1619
962600880000	75050293	00030	75.000	U6/1619	U6/1619
962600880000	75050293	00040	75.000	U6/1619	U6/1619

**list of suppliers**

The offers should reach us 30 minutes before the time of opening of tenders.  
 The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

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

**K. RAGHUNATH**  
 MANAGER / PURCHASE  
 (FOSSIL BOILERS)

Materials Management / BO  
 BHEL DRAGON 620 014

# BHARAT HEAVY ELECTRICALS LIMITED

HIGH PRESSURE BOILER PLANT, TIRUCHIRAPPALLI 620 014

**TECHNICAL DELIVERY CONDITIONS  
FOR SUB - DELIVERY COMPONENTS OF  
CONTROLS AND INSTRUMENTATION**

**SPECIFICATION FOR COAL FLOW MONITOR**

**SPEC. No. TCI :267/STD/REV.01**

REV NO	DATE	DESCRIPTION	PRPD	CHKD	APPD
00	15-11-07	INITIAL RELEASE	SD/-	SD/-	SD/-
01	15-03-13	GENERAL REVISION			


**NOTE :**

1. In Vendor Compliance Column - vendor shall indicate "YES", "NO", or "NOT APPLICABLE" and signed. It is mandatory to furnish point wise confirmation for this technical specification.

**SPECIFICATION FOR COAL FLOW MONITOR**

SL. NO	CHARACTERISTICS	REQUIREMENT	VENDOR COMPLIANCE COLUMN
1	Application	To detect raw coal flow in the downspout of Gravimetric feeders.	
2	Method of flow sensing	Acoustic emission /Microwave/ any other suitable type – Vendor to specify.	
3	Velocity of descending Coal column	0.026 ft/sec (min) to 0.129 ft/sec (max)	
4	Raw coal details	Crushed coal of 30mm (max.) size and bulk density varying from 800 Kgs / cu.m to 1000 kgs / cu.m.	
5	Dimension of down spout	OD : 36 3/4" ID : 36" Wall thickness : 3/8" Material : 304 Stainless Steel.	
6	Type of sensing element	Vendor to indicate in the offer.	
7	Sensitivity of the sensor	Vendor to indicate in the offer.	
8	Control unit for the monitor	Control Unit comprising of electronics shall be mounted inside an enclosure suitable for mounting on Feeder body with enclosure degree of protection IP55 / NEMA-4.	
9	Control Power supply	110 volts $\pm$ 10%, 50Hz $\pm$ 5% AC	
10	Permissible ambient temperature.	(-) 20°F to 140°F	
11	Indication to be Provided on the control unit.	For alarm and ready condition.	
12	No. of relay contact	2 N.O. + 2 N.C.	
13	Contact rating	5A @ 120V AC resistive 0.5A @ 120V AC inductive 0.25A @ 125V DC resistive 0.05A @ 125V DC inductive	
14	Scope of supply	The scope of supply shall include sensor assembly, control unit with enclosure and mounting acc., inter-connecting plug-in cable of 11 metres and flexible conduit with end connector	

**SPECIFICATION FOR COAL FLOW MONITOR**

SL. NO	CHARACTERISTICS	REQUIREMENT	VENDOR COMPLIANCE COLUMN
15	Mounting of sensor	Sensor will be mounted on the spacer of length 450mm having OD of 934mm & 10mm thickness. Vendor to offer sensors suitable for mounting on the above size of downspout spacer pipe.	
16	General  	Suitable mounting flanges / brackets for installation of sensor shall be supplied along with the flow monitor.  Sensor to local control unit cable shall have prefabricated connector on both the ends to avoid polarity reversal during commissioning.	
17	Commissioning support	Vendor to give optional offer for commissioning of coal flow monitors at job site.	
18 18.1	Documents Along with offer	1.Pointwise compliance to this specification & scope of supply. 2. Technical details of the coal flow monitors. 3. Reference list of installations for power plant application with date of installation. 4. Performance feedback.	
18.2	In the event of order (Within 15 days from PO) for approval	1. Details regarding storage installation, calibration and trouble shooting procedures.  2. Detailed installation drawing indicating the overall dimension of the sensor assembly, control unit and their mounting and fixing arrangement for the offered coal flow monitor.  3. O&M Instruction Manuals in 10 sets – hard copies & 3 sets of soft copies in CD along with supplies. 4. Detailed quality plan along with all documents – 3 sets for approval	

**Note:**

General statement like “offer as per BHEL specification” is not acceptable. Any deviation shall be clearly indicated with reasons. Any improved version of equipment can also be offered as alternative clearly highlighting the advantages/technical superiority.

**BHARAT HEAVY ELECTRICALS LIMITED  
TIRUCHIRAPPALLI**

**CONTROLS AND INSTRUMENTATION / FB  
QUALITY ASSURANCE**

**STANDARD PACKING PROCEDURE  
FOR  
ALL INSTRUMENTS AND MISCELLENEOUS ITEMS  
(ELECTRICAL, ELECTRONIC AND PNEUMATIC)**

Rev	Date	Prepared	Checked	Approved	Revision History
00	01.01.96	Sd/-	Sd/-	Sd/-	Initial History
01	28.03.02	A.J.OMPRAKASH Sd/-	R.VARADARAJAN Sd/-	G.MATHIYALAGAN Sd/-	Department name changed
02	26.02.07	RM.VAIRAVAN <i>eh/2007/30</i>	N.SRIDHAR <i>MS</i>	G.SOMASUNDARAM <i>MS</i>	Revised after discussion with Shipping Dept.

## **1.0 SCOPE**

- 1.1 This procedure gives minimum guidelines to be complied with for packing of Electrical, Electronics and Instrumentation panels. This packing shall be suitable for different handling operations and for the adverse conditions during transportation and during indoor / outdoor storage for periods more than one year.

## **2.0 WOOD SPECIFICATION FOR PACKING**

- 2.1 Rubber wood as per manufacturer standard.  
2.2 Silver Oak as per procedure PR:CHEM:017 or as per relevant International Standards.

## **3.0 PACKING**

- 3.1 For Inland packing, rubber wood and export packing Silver Oak wood shall be used. The wood used shall be seasoned and treated. It shall be free from knots, etc. and any kind of decay caused by insects and fungus.
- 3.2 The required wood case for the equipment to be packed shall be made out of individual planks of single length and no joint is permissible. Using such planks, the required wood case for the panel shall be made,
- 3.3 Sufficient number horizontal, vertical and diagonal planks (dimension depending upon case size) shall be used for binding and strengthening. Runners have to be provided with metallic sling plates for handling.
- 3.4 The instrument or the items has to be individually packed with a polythene cover and shall be kept inside a moulded thermo coal or carton box. The box shall be filled with suitable material like jute, coir, thermo coal, etc.
- 3.5 The original packing material shall be used for the following items, wherever required.  
***Personal computer (PC), Monitor, Keyboard, Transmitter, Switches, Gauges, Analyzers, CCTV system, Electronic items.***
- 3.6 On all sides of the inner case, black polythene sheet shall be nailed.
- 3.7 The gap between job and the box shall be filled with suitable material like jute, coir, thermo coal, etc.
- 3.8 The packing of the cable by vendors shall be relevant Indian Standards.
- 3.9 Each case must have sufficient quantity of silica gel, packed in cotton cloth bags, shall be kept at different places as required.  
The bags used shall have the following information marked on it.  
Silica Gel activator type:  
***Blue: Active***  
***Rose: Reduced active***  
***White: No activity. To be replaced with fresh Silica gel.***

**4.0 MARKING**

- 4.1 After completing the packing, Stencil marking, as per dispatch instructions and symbol marking as per Annexure – I shall be made. Please ensure the box is stenciled with “FRAGILE ITEM”, “HANDLE WITH CARE”

**5.0 PACKING SLIP**

- 5.1 A copy of the packing slip, kept in a polythene cover shall be kept inside the box. Another copy of the packing slip, kept in a polythene cover shall be kept out side the box and covered with a metallic plate to the case.

**6.0 CAUTION**

Do not pack any other Mechanical items with this case.

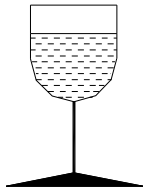
**7.0 GENERAL**

- 7.1 These packing procedures are the minimum requirements in addition to the standard instructions mentioned in the Purchase Order and Specification.
- 7.2 Deviation to meet the packing procedure requirements / non-clarity in packing approach in any quotation will be liable for rejection of offer.

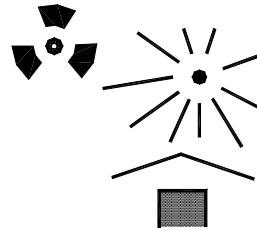
ANNEXURE - 1

TO

PROCEDURE NO:CI:QAC:PR:02/00 ; PR:03/00 ; PR:04/00



FRAGILE, HANDLE WITH CARE



PROTECT FROM HEAT AND RADIOACTIVE SOURCES



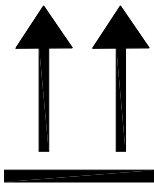
USE NO HOOKS

NOTE: The design of heavy goods packages cannot always resist top lifting by grabhooks.



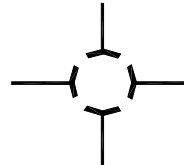
KEEP DRY

NOTE: Not all cases have waterproof internal liners: plywood used in the construction may not have a waterproof glue-line.



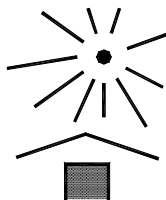
THIS WAY UP

NOTE: Certain designs of small cases make it difficult to distinguish top from bottom.



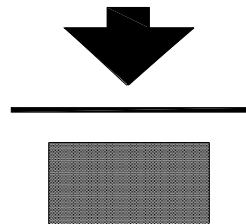
CENTRE OF GRAVITY

NOTE: This should be stencilled as a minimum on the two longest case sides (this information will normally be supplied by the manufacturer of the item(s) packed).



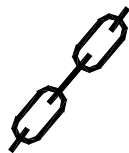
KEEP AWAY FROM HEAT

... kg max



STACKING LIMITATION

NOTE: The maximum load in kilograms should be marked above the arrow.



INTERNATIONAL "SLING HERE" SYMBOL



<b>Annexure - A</b>			
<b>COMMERCIAL TERMS &amp; CONDITIONS FOR IMPORT VENDORS</b>			
<b>SL. NO</b>	<b>ELEMENTS</b>	<b>COMMERCIAL TERMS</b>	<b>VENDOR CONFIREMATION</b>
1	Delivery Terms	TO BE QUOTED FOB basis	
2	FREIGHT & INSURANCE	BHEL SCOPE	
3	PAYMENT TERMS	100% PAYMENT THROUGH LETTER OF CREDIT. LC FOR 10% OF MATERIAL VALUE WILL BE BY VENDOR	
4	L.D	MIN 0.5% TO MAX 15%	
5	DELIVERY	STARTING FROM 2 MONTHS THE DATE OF PO AS PER THE PROJECT REQUIREMENT	
6	VALIDITY	6 MONTHS FROM THE DATE OF PRICE BID OPENING	
7	GUARANTEE CLAUSE	18 MONTHS FROM THE DATE OF SUPPLY OR 12 MONTHS FROM THE DATE OF COMMISIONING	
8	FIRM PRICE	PRICES SHALL BE FIRM TILL THE EXECUTION OF SUPPLIES AND NO PVC IS APPLICABLE	
9	TENDER FINALISATION	TENDER WILL BE FINALISED ON THE BASIS OF "TOTAL COST" TO BHEL	
10	CONFIREMATION TO BHEL REQUIREMENT	IF THE VENDOR IS NOT CONFIRMING TO OUR TECHNICAL / DRAWING REQUIREMENTS IN TOTAL, THEIR OFFER WILL NOT BE CONSIDERED FOR FURTHER EVALUATION IN THIS TENDER	
11	DOCUMENT SUBMISSION	IN CASE OF PO, DOCUMENTS (DRAWINGS, DATA SHEETS AND QUALITY PLAN IN TRIPLICATE) SHALL BE SUBMITTED WITHIN 15 DAYS FROM THE DATE OF RECEIPT OF PO AND THE REVISED DOCUMENTS SHALL BE SUBMITTED WITHIN 1 WEEK FROM THE DATE OF RECEIPT OF ENGINEERING / QUALITY COMMENTS	
12	CONSIDERATION OF OFFER	LOWEST PRICES RECEIVED AGAINST BHEL TENDER NEED NOT BE THE TECHNICALLY ACCEPTABLE ONE AND IN THAT CASE BHEL RESERVE THE RIGHT NOT TO CONSIDER THE SAME	
13	QUANTITY OF TENDERED QTY	BHEL RESERVES THE RIGHT TO INCREASE OR DECREASE THE TENDERED QUANTITY	
14	RISK PURCHASE CLAUSE	CONFIRMATION FOR RISK PURCHASE CLAUSE IS REQUIRED	
15	PBG	SUBMISSION OF PERFORMANCE BANK GUARANTEE FOR A VALUE OF 10% OF THE TOTAL PO VALUE	
16	PRE QUALIFICATION RQUIREMENT		

<b>Annexure - B</b>			
<b>COMMERCIAL TERMS &amp; CONDITIONS FOR INDIGENOUS VENDORS</b>			
<b>SL. NO</b>	<b>ELEMENTS</b>	<b>COMMERCIAL TERMS</b>	<b>VENDOR CONFIREMATION</b>
1	Delivery Terms	TO BE QUOTED ON EXWORKS BASIS INCLUSIVE OF PACKING & FORWARDING CHARGES	
2	FREIGHT & INSURANCE	BHEL SCOPE	
3	PAYMENT TERMS	WITHIN 45 DAYS 100% AFTER RECEIPT AND ACCEPTENCE OF MATERIAL	
4	ED + CESS	INDICATE THE APPLICABLE %	
5	CST/VAT	INDICATE THE APPLICABLE %	
6	L.D	MIN 0.5% & MAX 15%	
7	DELIVERY	STARTING FROM 2 MONTHS THE DATE OF PO AS PER THE PROJECT REQUIREMENT	
8	VALIDITY	6 MONTHS FROM THE DATE OF PRICE BID OPENING	
9	GUARANTEE CLAUSE	18 MONTHS FROM THE DATE OF SUPPLY OR 12 MONTHS FROM THE DATE OF COMMISIONING	
10	FIRM PRICE	PRICES SHALL BE FIRM TILL THE EXECUTION OF SUPPLIES AND NO PVC IS APPLICABLE	
11	TENDER FINALISATION	TENDER WILL BE FINALISED ON THE BASIS OF "TOTAL COST" TO BHEL	
12	CONFIREMATION TO BHEL REQUIREMENT	IF THE VENDOR IS NOT CONFIRMING TO OUR TECHNICAL / DRAWING REQUIREMENTS IN TOTAL, THEIR OFFER WILL NOT BE CONSIDERED FOR FURTHER EVALUATION IN THIS TENDER	
13	DOCUMENT SUBMISSION	IN CASE OF PO, DOCUMENTS (DRAWINGS, DATA SHEETS AND QUALITY PLAN IN TRIPLICATE) SHALL BE SUBMITTED WITHIN 15 DAYS FROM THE DATE OF RECEIPT OF PO AND THE REVISED DOCUMENTS SHALL BE SUBMITTED WITHIN 1 WEEK FROM THE DATE OF RECEIPT OF ENGINEERING / QUALITY COMMENTS	
14	CONSIDERATION OF OFFER	LOWEST PRICES RECEIVED AGAINST BHEL TENDER NEED NOT BE THE TECHNICALLY ACCEPTABLE ONE AND IN THAT CASE BHEL RESERVE THE RIGHT NOT TO CONSIDER THE SAME	
15	QUANTITY OF TENDERED QTY	BHEL RESERVES THE RIGHT TO INCREASE OR DECREASE THE TENDERED QUANTITY	
16	RISK PURCHASE CLAUSE	CONFIRMATION FOR RISK PURCHASE CLAUSE IS REQUIRED	
17	PBG	SUBMISSION OF PERFORMANCE BANK GUARANTEE FOR A VALUE OF 10% OF THE TOTAL PO VALUE	
18	PRE QUALIFICATION RQUIREMENT		

**SPECIAL TERMS AND CONDITIONS**

1. This tender is for the supply of Coal Flow Monitor as per specs, size and quantities mentioned in Annexure I attached to this enquiry.
2. The vendor shall have adequate experience in manufacturing and supply of Pneumatic Actuators.
3. The tender is in three parts  
**Part –I Pre-Qualification requirement.**

“The offered type of equipment shall be in successful operation for a period of at least 1 year as on the date techno-commercial bid opening, in coal fired thermal power plant of similar rating in India and performance feedback to be furnished along with the offer”

**Vendor to submit supporting documents for the same. Offers qualifying on the above requirement will only be considered for further processing.**

**Part – II Techno-commercial bid**

Techno commercial bid will be consisting technical offer with complete set of supporting documents and commercial bid without indicating the price.

**Offers found suitable on technical and commercial grounds only, will be considered for further processing.**

**Part - III – Price Bid**

**It will be consisting of price details**

All three bids are to be submitted in separate sealed covers, duly indicating the type of bid and enquiry number. These three envelopes will be sent in single cover duly super scribing the Enquiry Number.

In addition to the above mentioned three parts bid, vendors who qualify on Pre-Qualification Requirement and Techno-commercially and are not registered vendor of BHEL-Trichy has to submit the filled in “Supplier Registration Forms” (available at [www.bheltry.co.in](http://www.bheltry.co.in) -> [Online Supplier Registration –Material Management or http://vis.bheltry.co.in/olsa/](http://www.bheltry.co.in/olsa/)) before Price –Bid opening. Price bid of such vendors will be opened only after the receipt of all documents and registration with BHEL-Trichy

Part –I Pre-qualification bid will be opened on due date.

The techno-commercial bid of the qualified vendors will be opened on a suitable date with due intimation. Based on the acceptance of techno-commercial bid and vendor evaluation, the price bid of the qualified vendors will be opened on a suitable date with due intimation.

Following will be the criteria for vendors to qualify:

- a. Vendor should have been approved by BHEL Trichy for this items under Permanent category (OR)
  - b. Vendor should submit the following documents for considering them as an approved vendor:
    - i. Duly filled-in Supplier Registration Forms.
    - ii. Availability of minimum manufacturing, handling, testing and measuring facilities as detailed in the Supplier Registration Form.
    - iii. BHEL will have the right for spot assessment of the facilities for assessment.
    - iv. Qualifying to our techno commercial requirements of the Enquiry.
4. BHEL reserves the right to increase or decrease the tendered quantity and split the tendered quantity among more than one tenderer and place orders accordingly in any proportion based on commitment, requirement and supplier’s capability in terms of delivery and quality as assessed by BHEL.

5. BHEL reserves the right to negotiate the L1 rate.
6. BHEL reserves the right to re-float the tender opened, if L1 price is not the lowest acceptable price to BHEL inter-alia other reasons.
7. BHEL reserves the right to order on more than one vendor at the lowest acceptable price to BHEL.
8. Vendors have to confirm to the Commercial Terms and Special Terms & Conditions attached.
9. BHEL standard LD condition is 0.50 % per week to a maximum of 15 % for the undelivered portion of materials.
10. Payment terms shall be  
  
INDIGENOUS VENDOR:-  
"100% within 45days after receipt and acceptance of material".  
  
IMPORT VENDOR:-  
"Irrevocable unconfirmed Letter of Credit in any one of the Indian first class banks.t".
11. PO will be released only after customer approval.