



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT / CAPITAL EQUIPMENT

### ENQUIRY

Phone: +91 431 257 70 49

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Email : [csguna@bheltry.co.in](mailto:csguna@bheltry.co.in)

Web : [www.bhel.com](http://www.bhel.com)

	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
	2620900052	18.02.2009	23.03.2009

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

Item	Description	Quantity	Delivery (Item required at BHEL on)
10	PM 10, PM 2.5 Particle Analyser as per the technical specification & commercial conditions applicable (to be downloaded from web site ( <a href="http://www.bhel.com">www.bhel.com</a> or <a href="http://tenders.gov.in">http://tenders.gov.in</a> ))	01 No.	31.10.2009

**BHEL commercial terms & conditions with Price Bid and Bank Guarantee formats can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference “2620900052”.**

Tenders should reach us before 14:00 hours on the due date  
Tenders 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,  
For BHARAT HEAVY ELECTRICALS LIMITED

Sr.Manager / MM / Capital Equipment

**QUALIFYING CRITERIA**

The BIDDER / VENDOR have to necessarily provide the following details, for making an assessment of the firm's capability and competency.

The bid consists of 2 parts namely Technical and Price bid. Vendor shall submit Technical and Price bid separately. BHEL will study both the Qualifying Criteria and Response for Technical Specifications. The Price bid can be studied only if both the Qualifying Criteria and Response for Technical Specifications are found acceptable.

[The BIDDER is expected to give complete details against each clause in the table given below and wherever necessary an additional sheet may be attached giving clear reference number to cover the required details]

**Name of the product:** BHEL uses the title “CRC EQUIPMENT” in this document. Please refer Technical Specification attached herewith for further details.

S. No.	PARTICULARS	VENDOR's RESPONSE
1.0	The BIDDER / VENDOR shall have a minimum of <b>FIVE</b> Years of Continuous Experience in the Design, Manufacture & Supply of “CRC EQUIPMENT”. Please indicate the actual experience.	
2.0	YEAR of launch of the Model quoted against this ENQUIRY	
3.0	Is there any other model launched after the quoted Model? Otherwise, indicate the likely year in which the next model is likely to be launched.	
4.0	Number of “CRC EQUIPMENT” supplied, installed and commissioned till date in India. Please furnish contact person name, address, phone number, fax number and mail id.	
4.1	Number of “CRC EQUIPMENT” supplied, installed and commissioned till date outside India. Please furnish contact person name, address, phone number, fax number and mail id.	

Committee Members	Name & Design.	Signature	Initial
	Kannan K/DGM/CR/CRC		
	Ram Mohan Dr N /Sr. DGM/CR		
	Lawrence Dr A /Mgr/Labs		
For Specifications having reference numbers	CRC- 15,	DATE : 05 – 01 –2008	

# Coal Research Centre

Ref: CRC Eqpt: QC-a  
Rev No. 0/Dt. 05.01.2009  
Sheet 2 of 3

<b>4.2</b>	Please enclose Performance Certificate from atleast <b><u>one</u></b> Indian or Foreign customer for the model quoted.	
<b>5.0</b>	Details of Design Set-Up and Technology Back-Up assured from the PRINCIPAL Equipment Maker.	
<b>6.0</b>	Details on Service-after-Sales set-up in India including the addresses of Agents/Service Centre in India.	
<b>7.0</b>	The BIDDER / VENDOR shall submit the offer in TWO PARTS namely " <u>Technical Bid</u> " & " <u>Price Bid</u> ".	
<b>8.0</b>	The " <u>Technical Bid</u> " shall have vendor's responses along with Product Catalogue, Data Sheets in ORIGINAL and complete technical details of 'Bought-Out-Items' with copies of Product Catalogue. All Technical & Commercial terms can be here. <b>NO PRICE DETAIL IS ENTERTAINED HERE.</b>	
<b>9.0</b>	The BIDDER / VENDOR shall assure a continuous support for SPARES and SERVICE for TEN Years, from the date of commissioning of the equipment at BHEL Works.	

Committee Members	Name & Design.	Signature	Initial
	Kannan K/DGM/CR/CRC		
	Ram Mohan Dr N /Sr. DGM/CR		
	Lawrence Dr A /Mgr/Labs		
<b>For Specifications having reference numbers</b>	CRC- 15,	DATE : 05 – 01 –2008	

<b>10.0</b>	<p>The “Price Bid” shall have Price Part with following options.</p> <p><b>In case the offered model requires PC with special hardware and software, then bidder should include the same in their scope. The scope includes 17” TFT monitor, Laser printer B/W, Windows XP+ services packages also.</b></p> <p><b>In case the offered model requires only general PC hardware and software, then bidder should include only the application software in their scope. Bidder should give detailed Hardware and Software specification for arranging at BHEL.</b></p> <p><b><u>Option 1(Incase bidder supplies PC):</u></b>  Basic Equipment.  All PC hardware and software.  All software CDs (1 set) with valid license.  Installation &amp; Maintenance manuals (2 Hard copies &amp; 1 set of CDs)  Mandatory spares.  Consumables.  AMC</p> <p><b><u>Option 2(Incase bidder does not supply PC)</u></b>  Basic Equipment.  Application software CDs 1 set with valid license.  Responsibilities of interfacing BHEL supply PC with Basic Equipment(including interconnecting cables)  Installation &amp; Maintenance manuals (2 Hard copies &amp; 1 set of CDs)  Mandatory spares.  Consumables.  AMC</p>	
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<b>Committee Members</b>	<b>Name &amp; Design.</b>	<b>Signature</b>	<b>Initial</b>
	Kannan K/DGM/CR/CRC		
	Ram Mohan Dr N /Sr. DGM/CR		
	Lawrence Dr A /Mgr/Labs		
<b>For Specifications having reference numbers</b>	CRC- 15,	DATE : 05 – 01 –2008	

**Coal Research Centre**

**TECHNICAL SPECIFICATIONS FOR PM10, PM2.5 DUST PARTICLE  
EXTRACTION SYSTEM FOR PARTICLE ANALYSIS**

**Ref: CRC-15**

**Rev No. 0/ Dt. 05.01.2009**

Sheet 1 of 4

<b>Sl. No.</b>	<b>Particulars</b>	<b>BHEL specifications</b>	<b>Bidder's offer [With complete technical details]</b>
1	Confirmation for each point of specification.	Vendor is requested to give specific confirmation for each point. Deviations if any shall be clearly indicated.	
2	Ambient Condition	The uncontrolled ambient room conditions are- a) Temperature: 10 to 50 ° C, b) Relative Humidity: 100 % c) Dusty	
3	Scope of Vendor	1. Design, Manufacture, Testing, at vendor's works.  2. Original software, Installation & Maintenance manuals, Consumables, Mandatory Spares.  3. UPS(if required)  4. Training, Installation, Commissioning & Proving performance at BHEL Trichy.  5. On-site Guarantee, On-site Annual Maintenance Contract.	
4.0	Application	The equipment is an iso- kinetic dust sample extraction system for extraction of PM 10 & PM 2.5 dust particles in flue gas or fuel gas from stationary sources such as stack in coal based power plants fitted with particle filtration devices such as ESP, Bag filter, cyclones and ceramic barrier filter.	
5.0	Specifications	The sample extraction system shall meet the US EPA Standard Method or equivalent, for isokinetic dust sampling of PM 10 & PM 2.5 in gas, of aerodynamic diameter 10 micron and 2.5 micron particles from stationary sources using cyclone kits, isokinetic nozzle sets, filters, calibration orifices, control console and all accessories.	
5.1		The sample extraction system shall be capable of handling flue gas or coal fuel syn gas up to a temperature of 300 deg C, static pressure of + 50 to	

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**Rev No. 0/ Dt. 05.01.2009**

Sheet 2 of 4

		- 500 mm WC, velocity 1- 40 m/sec, dust concentration 0.1 to 50 mg/Nm <sup>3</sup> after the particle control device.	
5.2		The flow rate of sampling gas shall be adjustable up to 50 liter per minute. The pump and accessories shall be capable of handling the above flow rate. Dry gas flow meter with cumulative reading shall have precision of +/- 2 % with resolution of 0.01 Liters per minute. The flow control for maintaining iso-kinetic sampling conditions shall be facilitated through manual method Timer shall be provided for recording the duration of sampling.	
5.3		Heated probe with digital temperature display in deg.C, K type temperature sensors, solid state temperature controller, extension tubes around 2 metres for sampling are to be provided.	
5.4		The calculator with software program for the EPA method or equivalent to be provided. (Otherwise) please refer point 5.8	
5.5		All necessary heated probe connections, sampling hoses etc shall have enough length to access from sampling points to measuring location. Arrangement for Moisture measurement of sampled gas is required Provision for powder sample recovery for gravimetric and further analysis is required. Provision for Safe disposal of the gas after the measurements is required	
5.6		The details of all assemblies of the system shall be furnished during offer stage – Isokinetic source sampler console, isokinetic nozzles, probe assembly, stainless steel impinge assembly, cables, pump assembly, and all other devices. The inclusions, exclusions, deviations and options may be stated clearly against our specifications.	
5.7	Power supply	230V +/- 10% AC/1 Ph/50Hz- 1 Feeder	
5.8	Data System	In case the offered model requires PC with special hardware and software, then bidder should include the same in their scope. The scope includes 17" TFT monitor, Laser printer B/W, Windows XP+ services packages also. In case the offered model requires only general PC	

**Coal Research Centre**

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**Ref: CRC-15**

**Rev No. 0/ Dt. 05.01.2009**

Sheet 3 of 4

		hardware and software, then bidder should include only the application software in their scope. Bidder should give detailed Hardware and Software specification for arranging at BHEL	
5.9		A portable casing for carrying all the components to measuring site	
6.0	Consumables & Spares	Filter cartridges and Consumables for 300 Measurements.	
7.0	Along with offer the following details in hard copies shall be indicated.	a) Scope and interconnection diagrams-2 copies. b) Catalogs-2 copies. c) Dimensional details for preparing Civil Engg Drawings-2 copies. d) Mandatory spares with Unit price if applicable. e) Consumables along with unit price if applicable. f) Power supply requirement. g) Instrument air and compressed air if required. h) PC configuration. i) Vents and drains if required. j) Space requirement around the equipment. k) List of software.	
8.0	Installation and Commissioning	The Equipment with all Accessories is to be installed & commissioned at BHEL Works, free of cost, by the service engineer of the supplier.	
9.0	Performance Prove-Out at BHEL	The Supplier's Service Engineer has to conduct demonstration & calibration of the Equipment with Accessories.	
10.0	Inspection and Training at vendor's works	Incase the Equipment is of Indian origin, then BHEL's inspection and free training for 2 persons are applicable. Incase the Equipment is of Foreign Origin, the vendor should thoroughly inspect the equipment, furnish inspection certificate for BHEL's review and get clearance prior to dispatch of Equipment.	
11.0	Training on Operation & Maintenance at BHEL works.	Complete Training for BHEL Engineers to be given on Operation & Maintenance of the offered equipment at BHEL works, free of cost.	
12.0	Onsite Performance Guarantee	The Equipment & Accessories (including Bought-Out Items) are to be guaranteed for its performance for a minimum period of one year from the date of performance acceptance at BHEL Works.	
13.0	Draft and Final Installation and	1No Draft Installation, Operation & Maintenance Manual. It shall contain Electric Schematics, Circuit	

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**Ref: CRC-15**

**Rev No. 0/ Dt. 05.01.2009**

Sheet 4 of 4

	O&M manual in ENGLISH Language	Diagrams, PCB Drawings, Trouble Shooting Charts, Mechanical Sub-Assemblies, Rating of Bought-Out Items, etc. BHEL will review its completeness and inform supplier to make necessary corrections if applicable and ask to furnish 2 more final sets. In addition, one soft copy in CD to be supplied.	
14.0	Annual Maintenance Contract - AMC	The bidder has to quote for AMC through trained service personnel in India for a period of three years after the expiry of ORIGINAL WARRANTY period. Technical Service for Preventive and breakdown Maintenance, Trouble Shooting and Re-Commissioning of the Equipment INCLUDING the Cost of SPARES and Consumables .Please consider 4 visits per year.	
15.0	AMC - RESPONSE	The bidder has to furnish / indicate the response time for the service engineer to be at BHEL works, from the time of reporting breakdown through e-mail or telefax.	