

**BHARAT HEAVY ELECTRICALS LIMITED**

CORPORATE RESEARCH & DEVELOPMENT DIVISION

VIKASNAGAR, HYDERABAD - 500 093, INDIA

PHONES: 23774494 (EXCHANGE)

DIRECT: 23882104/23882204/

23778474/23776772

FAX : 91 40 23770698

RD:DP:MPX:F-04

ENQUIRY

To

-

Enquiry No: Enq Date: Due Date: Delivery By:

620803931 23-SEP-08 28-OCT-08

-

PLEASE SUBMIT YOUR QUOTATION IN SEALED COVER
 SUPERSCRIBED WITH ENQUIRY NO, ENQUIRY DATE
 AND DUE DATE SUBJECT TO OUR TERMS AND
 CONDITIONS ENCLOSED, FOR THE FOLLOWING
 MATERIALS SO AS TO REACH US ON OR BEFORE THE
 DUE DATE BY 12 NOON. THE TENDERS WILL BE
 OPENED AT 2 PM ON THE SAME DAY

Pin

Email :

Attn. .

PLEASE GIVE REFERENCE OF ENQ NUMBER , ENQ .DATE AND DUE DATE IN ALL YOUR CORRESPONDENCE
 FOR PROMPT ACTION. IN CASE IF YOU ARE NOT MAKING THE OFFER PLEASE POST A REGRET LETTER AND
 RETURN THE DOCUMENTS.

SL NO	DESCRIPTION / SPECIFICATION	UNIT	QTY
1	<p>FUEL CELL TEST STATION FOR TESTING & EVALUATING THE PERFORMANCE OF LOW TEMPERATURE FUEL CELLS (VIZ., PEMFCs) OF RATING UPTO 2 kW, AS PER THE DETAILED SPECIFICATIONS ENCLOSED AS ANNEXURE - A.</p> <p>ONLY THOSE OFFERS WHICH SATISFY THE PRE-QUALIFICATION CONDITION WOULD BE CONSIDERED FOR FURTHER SCRUTINY.</p> <p>(PL SEE SUB-CLAUSES 16.1 TO 16.5 UNDER CLAUSE 16.0 OF TECHNICAL SPECIFICATIONS GIVEN IN ANNEXURE -A).BHEL's REQUIREMENTS & SPECS ARE DESCRIBED UNDER COLUMNS 2 & 3. THE VENDORS MUST INDICATE THEIR COMPLIANCE TO THE TECHNICAL SPECIFICATIONS IN COLUMN # 4 or 5. COLUMN # 6 MAY BE USED BY THE VENDOR TO PROVIDE ANY ADDITIONAL INFORMATION RELATED TO ANY PARTICULAR PIECE OF SPECIFICATION.</p> <p>PRINTED BROCHURES / LITERATURE MAY ALSO BE ATTACHED, WHEREVER NEEDED (PLEASE SEE ANNEXURE - A). SPARES, WHICH, IN THE OPINION OF THE VENDOR, ARE REQUIRED FOR A TROUBLE FREE OPERATION OF THE FCTS FOR A PERIOD OF 2 YEARS, MUST BE NECESSARILY INCLUDED IN THE OFFER. OPTIONAL SPARES MAY ALSO BE OFFERED, SEPERATELY.</p> <p>COST FOR TRAINING & FOR VISIT OF SUPPLIER'S PERSONNEL FOR E&C SHOULD BE SEPERATELY QUOTED.</p>	NO	1

NOTE: PLEASE SUBMIT YOUR OFFER IN TWO PARTS AS PER THE ENCLOSED ANNEXURE 'AA' IN SEPARATE SEALED COVERS AS DETAILED BELOW:

1) FIRST COVER SHALL CONTAIN THE FOLLOWING:

a) TECHNICAL COMMERCIAL BID ALONG WITH COMPLIAEANCE STATEMENT, MENTIONING APPLICABLE DUTIES, TAXES ETC., AND DELIVERY TIME CLEARLY.(TERMS,CONDITIONS AND COMPLIANCE FORM ENCLOSED)

b) A COPY OF THE PRICED BID WITHOUT THE PRICE (UNPRICED PRICED BID)

2) SECOND COVER CONTAINING PRICE BID

3) IF THE PRICE BID IS FOUND TO BE DIFFERENT FROM THE UNPRICED PRICE BID IN ANY WAY, YOUR OFFER WILL BE REJECTED.

4) UNSIGNED OFFERS ARE LIABLE FOR REJECTION.

5) GUARANTEE CERTIFICATE : REQUIRED

6) MANUFACTURER'S TEST CERTIFICATE : REQUIRED



BHARAT HEAVY ELECTRICALS LIMITED

CORPORATE RESEARCH & DEVELOPMENT DIVISION
VIKASNAGAR, HYDERABAD - 500 093, INDIA

ENQUIRY

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FAX : 91 40 23770698

RD:DP:MPX:F-04

7) ERECTION & COMMISSIONING : REQUIRED

Important:

Taxes & Duties quoted by you will be taken for cost evaluation and order placement and no change will be entertained later except in the case of changes made by the Government. Changes in Taxes and Duties because of the changes in Turnover etc. also be to the supplier's account. In case no tax/duty is included, a self declaration for the exemption may be attached along with the offer.

AS WE ARE ENGAGED IN R&D ACTIVITY "C" FORM WILL NOT
BE ISSUED

PLEASE FILL UP THE ENCLOSED VENDOR REGISTRATION FORM
AND SEND IT ALONG WITH YOUR QUOTATION. OTHERWISE
YOUR QUOTATION WILL NOT BE CONSIDERED. (IGNORE THIS IF
YOU HAVE ALREADY SUBMITTED THIS FORM)

Yours faithfully
for

BHARAT HEAVY ELECTRICALS LTD

NARASIMHA RAO V.

Dy Manager

Email: raovn@bhelrnd.co.in

Annexure - A

		BHARAT HEAVY ELECTRICAL LIMITED		Enquiry No. :	
ADDRESS		BHEL, Corporate R&D Division, Vikasnagar, Hyderabad 500093		Due Date :	
PHONE NOS. (10 Lines)		91 40 2377 4494		Supplier Qtn. No.:	
NAME, DESIGNATION & E-MAIL of contact persons from materials management department		H Krishnan, AGM hkrishnan@bhelrnd.co.in	M Seeta Ram, DGM mseetaram@bhelrnd.co.in	Date :	
FAX NO.		91 40 2377 6320			
<u>TECHNICAL SPECIFICATIONS CUM COMPLIANCE CERTIFICATION FOR</u>					
<u>Fuel Cell Test Station (FCTS)</u>					
NOTE: Vendors are requested to carefully read the following 3 instructions. Offers which do not comply with these instructions are likely to be rejected.					
1	Only those vendors, who have supplied at least one number of 2 kW (or higher) rated FCTS during the past five years (from the date of opening of Tender), are eligible to quote. Vendor must, therefore, necessarily provide the information sought under Clause 16.0 (Pre Qualification Condition).				
2	The specifications required by BHEL are listed in Column 3. In case of compliance, the Vendor need to put only a 'tick' mark or say 'yes' under Column 4. In case the vendor wishes to offer an alternative specification, Column 5 may be used. Additional information may be provided under Column 6. Incomplete or ambiguous information against any of the below mentioned requirement or specification shall be treated as non-compliance, which may result in rejection of the offer. Vendors are, therefore, advised to provide information against each of the clauses. In addition, the vendors may attach their product Brochures or printed specification sheets, if they so desire.				
3	The offer and all other attached documents must be in English language only.				
Details of Manufacturer / Supplier of FCTS		Details of Indian Agent, if any			
COMPLETE POSTAL ADDRESS:		COMPLETE POSTAL ADDRESS			
TELEPHONE / FAX Nos:		TELEPHONE / FAX Nos:			
E-MAIL ADDRESS :		E-MAIL ADDRESS :			

SCOPE: SUPPLY, ERECTION & COMMISSIONING OF <u>Fuel Cells Test Station (FCTS)</u> COMPLYING WITH THE FOLLOWING SPECIFICATIONS					
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Clause #	DESCRIPTION OF BHEL REQUIREMENT	Specification required by BHEL	Vendor's Compliance (please tick or write 'yes' if 'offered' specification is same as in Column # 3)	Specification offered by Vendor (to be used only if 'offered' specification is different compared to the one given in Col 3)	Additional Information (Vendors may use this column for providing additional information, if any)
1.0	DETAILED SPECIFICATIONS				
2.0	Electrical rating (performance)				
2.1	DC Power rating (Please see clause 5.3, vendor to ensure compatibility with electronic load)	Up to 2 kW			
2.2	DC Current rating (Please see clause 5.1, vendor to ensure compatibility with electronic load)	~ 0 to 125 Amps (or more)			
2.3	DC Voltage rating (Please see clause 5.2, vendor to ensure compatibility with electronic load)	~ 0. 3 to ~ 60 Volts			
3.0	Anode & Cathode Reactants' Flow (Gases)				
3.1	Hydrogen Mass Flow Contoller (MFC) - flow range & accuracy of measurement (Please see clause 4.6, vendor to ensure compatibility with humidifier)	At least up to 60 SLPM \pm 1% (or better) accuracy			
3.2	Oxygen MFC - flow range (Please see clause 4.7, vendor to ensure compatibility with humidifier)	At least up to 30 SLPM \pm 1% (or better) accuracy			
3.3	Provision of using 'Air' in place of 'Oxygen' is desired. In such a case, 50% utilization of Oxygen in Air would be aimed at. Thus the MFC for cathode gas, would be required to handle almost 10 times the volume of air (ie 300 lpm) as compared to Oxygen. Vendor should also ensure compatibility of the Humidifier for use with Air (please see clause 4.7)				
3.4	Vendor may note that the PEMFC stacks which we desire to test using the FCTS, operate quite close to the ambient pressure, say at 100 mm (~ 0.15 psi) to 2000 mm of Water Column (~ 3 psi). Provision for upto 10,000 mm of Water column is, however, desired. Vendor must ensure compatibility of MFC's (and/or the humidifiers) outlet pressure with the PEMFC stacks' inlet pressure & back pressure requirements (pl see clause 4.8)				
4.0	Humidification System for Anode & Cathode Reactants				
4.1	Type of Humidifier	Vendor to specify			
4.2	Maximum Dew Point Temperature & accuracy	$\geq 85 \pm 2$ degrees Celcius			
4.3	Dry Gas By-pass	Required			
4.4	Humidity range (Relative Humidity)	Dry to 100% (from ~ Room Temp upto 85 ± 2 degrees Celcius)			
4.5	Humidified Hydrogen & Oxygen, coming out of the respective Humidifiers, should be maintained at ~ 5 deg C more than the dew point to avoid condensation of water vapour in the connecting pipeline. For this, an electrically heated & thermally insulated flexible tube, at least 1 meter long, must be supplied / included with each humidifier.				

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4.6	Anode gas humidifier flow rate (Please see clause 3.1 & 3.4, vendor to ensure compatibility with Hydrogen MFC and inlet pressure requirements of PEMFC stacks)	At least upto 60 SLPM Hydrogen.			
4.7	Cathode gas humidifier flow rate (Please see clauses 3.2 & 3.4, vendor to ensure compatibility with Oxygen MFC & inlet pressure requirements of PEMFC stack). Compatibility of humidifier with use of Air (please see clause 3.3) is desirable.	At least upto 30 SLPM Oxygen. Provision to handle use of Air is preferable (please see clause 3.3)			
4.8	Fuel Cell stack back pressure control (Please note that as described in clause 3.4, the back pressure would generally be in the range of 100 mm to 2000 mm of water column i.e. of the order of 0.15 to 3 psi, with provision for upto 10,000 mm of water column, ie. 15 psi)	Automatic (Programmable) or manually settable			
4.9	For both the humidifiers, the vendor should ensure compatibility with the inlet/outlet pressure requirements of the respective MFCs as also the inlet & back pressure range desired for the PEMFC stacks (please refer to clauses 3.1 to 3.4)	Vendor to specify			
4.10	Auto water refill and temperature control	Required, Vendor to specify			
5.0	Electronic Load				
5.1	DC Current range (please see clause 2.2 also)	Near zero to 125 Amps (or more)			
5.2	DC Voltage range (please see clause 2.3 also)	~ 60 Volts (stack OCV) to < 1 Volt (for testing single cells)			
5.3	Maximum DC power from stack (please see clause 2.1 also)	Up to 2 kW			
5.4	Electronic Load modes (user selectable)	Constant Current & Constant Voltage (preferably with Constant Power & Constant resistance modes also)			
5.5	Minimum Voltage for drawing maximum rated Current of 125 A	1 Vdc (< 1 V is preferable so that single cells may also be tested at max current)			
6.0	Exhaust Gas Handling System				
6.1	Automatic (or manually settable) back pressure control (please see clauses 3.4 & 6.4)	50 to 10, 000 mm of Water Column (Wc).			
6.2	Control accuracy (steady state)	preferably better than 50 mm Wc, Vendor to specify			
6.3	Draining of water (due to excess humidification or product water) from Anode & Cathode exhausts	Mechanical liquid drainer			
6.4	Pressure range at stack inlet and outlet	50 to 10, 000 mm Wc			
6.5	Pressure measurement accuracy	preferably better than 50 mm Wc, Vendor to specify			

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7.0	Stack Heating / Cooling Module				
7.1	The vendor must offer a stack heating cum cooling system to maintain the PEMFC stack at any desired temperature in the range of Room temperature to 85 deg C (Please see Clause 7.2 for details).	Vendor to specify.			
7.2	NOTE: BHEL stacks have a provision to allow passage of water through the bi-polar plates at pressures upto 3 bar. A typical 1 - 2 kW stack consists of 50 cells and has a gross weight of about 50 kgs, the active mass (cells & bipolar plates etc) which needs to be heated / cooled is made up mainly of Carbon or Graphite based materials & weighs about 25 kgs. Milipore grade water with conductivity of < 10 micro siemens cm can be provided by BHEL. The heating / cooling system should be able to maintain the stack within ± 2 deg C of set temperature. The initial stack heating (room temp to set temp) may preferably take < 30 minutes)				
8.0	Safety Features (Software Controlled / Operator Settable)				
8.1	The FCTS must be capable of unattended operation and must have safety features & interlocks {viz., whenever stack Voltage (or any individual cells' V) falls below a pre-set value, either the electric load is reduced in pre-set steps or an emergency shut-down is effected, wherein, load is removed, hydrogen is stopped followed by Nitrogen purge for a predetermined time}. Vendor must ensure that Nitrogen purge takes place each time the PEMFC is shut down, in normal cases as well as when the emergency shut down switch is activated. The following other safety related features may also be provided in the FCTS.				
8.2	Manual Emergency Shut Down switch	Required			
8.3	Hydrogen LEL detector / sensor & audio / visual alarm.	Required			
8.4	Over temperature, over current, over power protection	Required			
8.5	Audio / visual alarms whenever reactant gases / cooling water pressure falls below the set limit.	Required			
8.6	All the pipes, cables etc. used in the FCTS should be well supported and protected. They should not create any hinderance to operator's movement. All the rotating parts should have protective covers to avoid injury to operators & should be dynamically balanced to avoid undue vibrations .				
8.7	The FCTS software should preferably include auto fault diagnosis to suggest likely causes & solutions to help operator take necessary corrective actions.				

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9.0	FCTS - PEMFC Stack Integration				
9.1	With a view to avoid interface problems during connecting the FCTS to a typical 1 - 2 kW PEMFC stack, the Vendor is advised to seek all relevant information, well in advance. Vendor may note that all the ports (for supplying reactants to the Anode & Cathode or cooling / heating water to the cooling plate) have 1/2 inch BSP female threads.	Vendor to ensure trouble free integration of FCTS with BHEL's typical 1kW PEMFC module as also the other smaller stacks / single cells.			
10.0	Data logging, storage & analysis system - (H/W & S/W)				
10.1	Pentium class IV PC \geq 2.8 GHz processor, 512 MB RAM or better, \geq 17" LCD monitor, Windows XP OS or equivalent, \geq 160 GB HDD, DVD RW ROM etc)				
10.2	Suitable soft ware for viewing, printing & storing the data (say, as .txt file), exportable into MS excel format and also in the form of graphs or plots (Time vs Stack V, Time vs Power, Time vs Current, any selected cell V vs time and Stack V vs Stack I etc)				
10.3	The data logging system should be capable of monitoring a minimum of 60 channels (preferably 100) continuously. The details of channels are : 1 channel for stack voltage (0-100 Vdc); 1 channel for stack current (0-125 Adc); 50 channels to monitor individual cell voltages (0-2 Vdc); rest of the channels should be able to receive 4-20 mA control signals or outputs from thermocouples, RTD etc				
11.0	Erection & Commissioning of FCTS - requirement of utilities, tools & tackles. (Vendor is advised to take note & Comply)				
11.1	All electrical & electronic equipment & control panels used should conform to the relevant Indian / International Standards, and should be compatible with 165 - 240 V single phase 50 Hz grid power. Vendor must specify the electric power requirement in the offer itself so that necessary power lines may be laid by BHEL, before the FCTS is received at site. Requirement of grounding / earthing with required material details should be informed by vendor well in advance so that the same could also be incorporated. Either the FCTS must contain a suitable UPS to ensure safe shut down and data saving in case of grid failure etc or the Vendor must provide complete specification of a suitable UPS so that one may be procured by BHEL. All electrical / electronic equipment shall be tropicalized. The cabinet should be dirt & vermin proof.				
11.2	Compressed gas cylinders (Hydrogen, Oxygen & Nitrogen) and milipore grade high purity water (conductivity \sim 10 microsiemens-cm) would be made available by BHEL. Vendor must specify if any other utilities are required during erection, commissioning and/or operation of the FCTS.				
11.3	Vendor may note that the entrance to the Laboratory (where the FCTS is to be used) is approachable through a 170 cm wide corridor. Lab door is \sim 200 cm wide x 205 cm high. Pallet trucks of 2000 kgs capacity are available. Vendor is advised to mention the physical dimensions & weight of the FCTS in their offer. Please inform if any foundation / grouting etc is required.				
11.4	It may be noted that the full responsibility of commissioning, start up & testing of the FCTS at BHEL site would be of the Vendor. It is therefore necessary that the Vendor must specify, well in advance, all the above requirements so that BHEL may keep them ready at the time of the E&C. Commissioning spares, if any, shall be brought by the supplier at the time of commissioning of FCTS. Expenses to cover air-fare, boarding, lodging, local conveyance etc for suppliers' service engineers should be included in the offer under a separate head.				
11.5	All special tools & tackles needed for erection & commissioning of the FCTS must be brought by the Vendor / Agent. Only standard hand tools, instruments may be provided by BHEL, but the Vendor must confirm their availability with BHEL, well in advance. Vendor should specify if any lifting facility (tripod, chain pulley etc) is needed.				

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12.0	Spares & Accessories				
12.1	The Offer should include sufficient Spares for all the mechanical (pumps, valves, seals, O rings etc), electrical (relays, contactors, switches, indicating lamps, fuses etc), electronic (I/O Cards, Control Cards etc) instruments & sub-systems used in the FCTS to ensure trouble free operation of the FCTS for at least 2 years. The spares should be able to take care of the FCTS due to normal wear & tear and should also include any consumable items. In case any of the FCTS parts are likely to become obsolete during the first 2 years or immediately thereafter, the vendor should inform BHEL, sufficiently in advance and provide drawings / details of such parts / spares including suppliers' address to enable BHEL to procure them, if needed.	Vendor to specify			
12.2	Vendor must supply a complete list of spares for FCTS and accessories, along with their type / specification / part number and name & address of the supplier for the spares.	Vendor to take note & comply			

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13.0	Documents Required				
13.1	At least 3 (Three) sets of following documents (Hard copies) in English language should be supplied along with the FCTS	Vendor to take note & comply			
13.2	Operating manuals / Quick operating guide, including programming manual, if any.	Vendor to take note & comply			
13.3	Detailed Maintenance manual / trouble shooting guide with required drawings for assemblies / sub-assemblies / parts, with relevant part numbers & parts list.	Vendor to take note & comply			
13.4	Catalogues, O&M Manuals for all bought out items used in the FCTS, including drawings, circuit diagrams etc, wherever applicable.	Vendor to take note & comply			
13.5	PLC program print-outs with comments in English, if required.	Vendor to take note & comply			
13.6	Complete Master List of parts used in the FCTS shall be submitted by the vendor.	Vendor to take note & comply			
13.7	One additional set of all the above documents, wherever possible, on CD ROM. If any proprietary Software programs have been loaded on the dat logging / analysis system (please see clause 10.0) a licensed copy of the same (CD / DVD etc) should also be provided.	Vendor to take note & comply			
14.0	Training of BHEL Personnel in the operation, maintenance & trouble shooting of FCTS				
14.1	Vendor should train 2 BHEL engineers, in all aspects of Operation & Maintenance (O&M) of the FCTS, including trouble shooting. Competent, English speaking experts shall be deputed by the vendor for satisfactory & effective training of BHEL personnel. Vendor should specify the duration for which BHEL engineers must undergo the training to make them fully conversant with (a) use of all Measuring Systems & accessories supplied with the FCTS (b) O&M of all the critical Electrical, Electronic, Mechanical components used in the FCTS, including bought out items & equipment (c) O&M of the FCTS, including storage, retrieval, presentation & interpretation of performance data.	Vendor to take note & comply			
14.2	While BHEL would bear the expenses for it's engineers to cover travel, boarding, lodging, etc for the entire period of the training, the vendor must separately quote if any charges are payable by BHEL for the said training.	Vendor to take note & comply			
14.3	The above training should be fixed in such a manner that BHEL engineers would also be able to inspect & conduct the performance guarantee-cum-acceptance tests on the FCTS to be supplied by the vendor. In addition to complying with all the specifications, the following two conditions would constitute the acceptance criterion for the FCTS. These main acceptance criteria would be 1> testing of FCTS at ≥ 1 kW load & demonstration of operation of the FCTS for a continuous period exceeding 24 hours.	Vendor to take note & comply			

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15.0	Tropicalization - Ambient Climatic Conditions				
15.1	Vendor may note that the FCTS would have to perform under tropical weather conditions. The ambient indoor temperatures in Hyderabad may vary between 15 to 35 deg C during the year. The FCTS shall be kept in the normal shop floor condition, where a certain amount of dust may be present during certain parts of the year. Ambient Humidity during monsoon season could be close to 100% RH.	Vendor to take note & comply. If the FCTS needs to be kept within certain specified ranges of temperature, humidity or dust conditions, vendor must specify the min & max tolerable limits, so that appropriate arrangements can be made.			
15.2	The FCTS, including attachments and accessories, should be suitable for continuous operation at its rated capacity.	Vendor to take note & comply			
16.0	Reference List (Pre Qualification Condition)				
16.1	The vendor must necessarily provide the following information. BHEL reserves the right to contact any or all of the parties to confirm the information provided by the vendor	Vendor to take note & comply			
16.2	Customer's / Company's name alongwith complete postal address, where a similar (or higher rated) FCTS was installed by the supplier.	Vendor to comply			
16.3	Month & Year of commissioning of the FCTS.	Vendor to comply			
16.4	Name and designation of the contact person of the customer alongwith Phone #, Fax #, e-mail etc. BHEL reserves the right to contact the Customer to verify the information provided by the vendor.	Vendor to comply			
16.5	Performance certificate/s, if provided by the customer/s, regarding satisfactory performance of FCTS at customer's site	Vendor to comply			
17.0	Networking				
17.1	FCTS should have necessary hardware and software, required for interfacing with gigabit Ethernet Local Area Network with 100 MBPS through UTP cables for effecting FCTS program and other related data transfer. The network would be accessed through LAN / WAN / Internet. The FCTS shall appear as a node in the Entire Network.	Vendor to comply			



BHARAT HEAVY ELECTRICALS LIMITED

CORPORATE R&D DIVISION, VIKAS NAGAR, HYDERABAD – 500 093, AP, India

Ph: 0091-40 – 23778474, FAX: 0091-40 – 23770698

General Terms and Conditions of Enquiry & Contract for the Purchase of Goods/ Services

1. The quotation and any order resulting from this enquiry shall be governed by these General Terms and Conditions of enquiry and contract for the supply of goods and the supplier quoting against this enquiry shall, unless specifically stipulates any different terms or conditions, be deemed to have read and agreed to the same.
2. Sealed quotations in double cover with tenderer's distinctive seal, superscribing enquiry number, date and due date are to be submitted so as to reach on or before due date & time, addressed to **Additional General Manager(MM), Bharat Heavy Electricals Limited, Corporate Research & Development Division, Vikasnagar, Hyderabad, Andhra Pradesh, India – PIN-500 093, India.**

In the case of **Two-part bid**, each inner cover shall clearly be labeled as a) **Technical & Commercial Bid** containing technical data/ drawings/ catalogues/ quality plans along with commercial terms and conditions & copy of the price bid with the price columns left blank (unpriced price bid), b) **Price bid** containing prices quotes. Installation and/or Commissioning charges shall be spelt out in absolutely lucid terms, taking into account total charges, rather than quoting vaguely, such as charges per man-day or charges per engineer per day etc. **If the price bid was found later to be different from the unpriced price bid in any way, the offer will be rejected summarily.**

3. **Tender/ Technical bid Opening:** Unless specified otherwise, tenders/ technical bids will be opened on appointed date and time as mentioned in the enquiry or as communicated changed date/time, if any, in the presence of such of those tenderers who may be present.
4. **Delayed/ Late Tender:** Tenders, which have been posted by registered post through the postal department in time before opening date but received after tender opening, shall be treated as regular tenders. Other tenders received after tender opening time shall be treated as late tenders and normally they may be rejected.
5. The Quotation should be free from overwriting and erasures. Corrections and additions, if any, must be attested. Supplier should indicate in the quotation dimensions (Size), weight, rate etc., in the metric system unless the enquiry calls for different unit.
6. **Validity of Quotation:** All quotations shall be kept open for acceptance for a period of ninety days from the date of opening of Tenders/ Technical bid and this shall be deemed to be an express condition of all quotations. The rate shall be quoted in both figures and in words.
7. In the case of Two-part bid, the vendor should furnish technical clarifications, if any, within stipulated time mentioned, failing which, it will be construed that the vendor is not interested in the tender and BHEL shall not consider the offer for further evaluation.
8. **Revision of Pricebid:** In the event of any bidder, after finalizing the technical specifications and scope of supply, opting to revise and submit their latest price bid, then BHEL reserves the right to open their original / previous price bid also while evaluating revised bid.
9. **Pricebid Opening:** Unless specified otherwise in the enquiry, the Price bids of technically qualified vendors shall be opened with prior intimation in the presence of such of those tenderers who may be present.
10. **Conformity to Specifications:** The material should be of the best quality and shall be conforming to our specification given in our enquiry. Unless otherwise agreed upon by BHEL, no payment shall be due by BHEL in respect of any sample. Offers without details of specifications/ applicable catalogues will not be considered and are liable to be rejected.
11. **Terms of Delivery:** All suppliers shall quote the lowest prices on ex-works and FOB/FCA basis. Foreign suppliers will also indicate their Indian agent's name and address with percentage of agency commission out of the quoted price, if any. Name and Address of the supplier's Bankers address should also be given. Indian suppliers for the indigenously manufactured/ imported stock shall quote on Ex-works /Free-on-Rail/Road /FOR-destination basis, indicating packing & forwarding charges, if any, separately.
12. **Taxes and Duties:** Unless specified otherwise in the enquiry, BHEL do not provide "C" or "D" Form as it is engaged in R&D. All Indian suppliers shall clearly mention Sales Tax/ VAT, Excise Duty, and Service Tax etc, if any, payable in addition to the quoted price and indicate applicable rates/ percentage, item-wise. It will be paid

only if Registration Number under State(TIN)/ Central Sales Tax or Service Tax is specifically mentioned in the Bill/Invoice. Vendors without a Sales Tax/VAT registration and applicable Service Tax registration will not be considered.

13. **Insurance:** Insurance will be arranged by BHEL in case of Ex-Works as well as FOB basis supplies.
14. **Terms of Payment:** Full payment will be made within 30 days after receipt, inspection and acceptance of the material (and where involved, Erection and commissioning of the material/ equipment at BHEL/Destination) by Crossed cheque and no Bank commission charges are admissible. The Cheque will be sent by registered post and BHEL is in no way responsible if loss occurs due to delay by postal authorities and cheques falling into improper hands or through forgery or fraud. Suppliers having RBI-SEFT-enabled accounts can seek payment through Electronic Fund transfer. For foreign suppliers, the preferred payment term will be on Sight Draft basis and bank charges inside India will be to BHEL account and outside India will be to supplier's account.
15. Suppliers shall quote competitive price and best delivery for all the items mentioned in the enquiry. BHEL reserves the right to reject partial quotations and to place order on overall landed cost basis. Correct date of effecting supplies in the event of an order should be indicated in the offer. If the supplier's quoted terms are different from BHEL standard payment terms, interest @10.5% per annum (or as indicated in the enquiry) will be loaded to the quoted prices for difference of payment period.
16. **Packing:** The supplier shall be responsible for the goods being properly and adequately packed so as to prevent any loss, damage or deterioration during transit and indicate packing charges, if any, separately.
17. **Part/ Split Ordering:** BHEL reserves right to Order part of the item/ quantity of the enquiry and split the order among qualified vendors.
18. In case the goods enquired are on Rate Contract basis with any other unit of BHEL, such fact should be clearly indicated in the quotation giving full particulars of Rate Contract number, validity and price and also your willingness to comply with order if placed against such Rate Contract. A true copy of Rate contract signed by the supplier should be sent with the quotation.
19. **Inspection:** On receipt, the goods shall be subjected to inspection and also test, if necessary, and our decision regarding the acceptability of the goods shall be final and binding on the suppliers.
20. **Consequences of Failure To Deliver:** The time stipulated for delivery of goods shall be deemed to be the essence of the contract and delivery must be completed within the stipulated date/s. In the event of supplier's failure to supply the goods by the stipulated date/s, BHEL shall be entitled to levy a penalty of ½% per week for the delayed no of weeks or part thereof for the undelivered portion of PO subject to a maximum of 10% total order value.
21. **Withdrawal from the Contract:** In case the supplier withdraws the quotation after its acceptance by BHEL or fails to supply the goods as per the terms and conditions of contract, or at any time repudiated the contract wholly or in part, BHEL shall be at liberty to cancel the Purchase Order and to recover from the supplier the extra cost and other loss incidental to the breach of contract on the part of the supplier.
22. **Guarantee/ Warranty certificate and Manufacturer's Test report:** Invariably in all cases where it is so stipulated, the supplier should furnish Guarantee/ Warranty certificate valid for a period of 18 months from date of supply or 1 year from the date of receipt, acceptance and commissioning(or more, if provide by oem) whichever earlier and manufacturer's Test report along with the goods, failing which, BHEL shall have the right to reject the goods.
23. All ferrous/ non-ferrous items shall be colour coded as per bureau of Indian standards/ or IS standards/ BHEL Standards.
24. **Recovery of Dues:** BHEL shall recover any amount due from the supplier or any amount outstanding to the credit of the supplier with BHEL R&D unit or any other BHEL unit(s) and/or by legal action.
25. **Arbitration & Forum for Legal Proceedings:** All disputes arising in connection with indigenous/ foreign supplies shall be settled through arbitration held at Hyderabad, AP, India and arbitration shall be appointed by Arbitration Tribunal of the Federation of Andhra Pradesh Chambers of Commerce and Industry, Hyderabad, AP, India. The Courts at Secunderabad/ Hyderabad, AP, India shall have jurisdiction in respect of any suit or other legal proceeding arising from or relating to this contract

The rights and remedies of BHEL stated in these General terms and conditions shall be in addition and supplemental to its rights and remedies under law and custom or usage of trade or business and shall in no way be deemed to limit, curtail, supercede or derogate from its said rights and remedies.



ANNEXURE “AA
BHARAT HEAVY ELECTRICALS LIMITED
CORPORATE RESEARCH & DEVELOPMENT DIVISION
VIKASNAGAR, HYDERABAD – 500 093. INDIA

MATERIALS MANAGEMENT DEPARTMENT
(Information for Technical & Commercial bids with general terms)

ENCLOSURE TO ENQ No:

DATE:

- a) Please indicate(_/) for applicable or (X) for not applicable against each clause of the enquiry
- b) Vendor shall confirm their compliance for applicable clauses (_/) in their offer without deviation.

1) Technical offer:-

- a) Vendors to confirm compliance to all points of specifications, attached if any. Deviations if any should be specified in the offer.
- b) Vendors shall furnish relevant technical Documents / Catalogues. Drawings and Quality plan duly taking care of Purchase Specification and Quality requirements along with their offer in duplicate for Purchaser’s review / Verification.

2) Two Part Bid:-

Vendor shall submit their offer in 2 parts.

2.1 Technical Bid:- Containing relevant technical data, drawings, catalogues, Quality Plan etc, along with Commercial Terms and Conditions and a copy of the price bid with the price columns left blank (unpriced price bid). If the price bid was found later to be different from the unpriced price bid in any way, the offer will be rejected.

2.2 Price Bid:- Containing the Price(s) quoted. Installation and or commissioning charges shall be spelt out in absolutely lucid terms taking into account the total charges rather than quoting vaguely such as charges as per man day or charges per Engineer per day etc.,

Technical bids will be opened on the due date of the enquiry or any other date fixed by BHEL. Further, vendor should furnish clarifications, if any, required within seven days after the same is sought by Purchaser. If no clarifications/reply received within 7 days, it will be construed that vendor is not interested in the tender and Purchaser will finalise tender accordingly. Price bids received on due date along with technical offers will be recorded and opened subsequently with due intimation to vendors after finalising of technical scope of supply.

These bids shall be submitted in separate sealed covers superscribing the nature of the offer (technical bid or price bid). BHEL Enq No. Due date etc.

Note: In case of non-compliance with the TWO_-PART-BID ie.. clause number 2 and subclauses 2.1 and 2.2. Purchaser reserves the right to summarily reject all such offers.

3) Delivery:-

Vendor shall confirm supply of materials as per the delivery schedule indicated in the enquiry.

4) Negotiations:-

Vendor shall quote competitive price and best delivery to avoid negotiations.

5) Commercial Terms & Conditions:-

Terms of Delivery:

- a) **Vendors shall clearly indicate terms of delivery Viz: Ex-Works/FOR Despatching station/FOR Despatching station FOR Destination/FOB port of loading/FAS Port of loading in their offer. If the terms of delivery is Ex-Works, then vendors shall clearly indicate the following:**
 - 1. Packing and forwarding charges.**
 - 2. Documentation / Handling charges if any**
 - 3. FOB FAS charges (Inland Freight & Insurance charges from vendor works to port of Loading).**
- b) **All Indian Vendors shall clearly specify the Excise Duty in percentage applicable for their supplies. Offers containing expressions such as “Extra as applicable” or “As applicable at the time of Delivery” will be summarily rejected.**
- c) **CST/Local Sales Tax in percentage shall be clearly indicated.**

6) Validity of Quotation:-

Validity of offer should be 90 days after the opening of price bid.

7) Part or split ordering:-

Purchaser reserves the right to order part of item / quantity of the enquiry.

8) For clauses not mentioned in this document see the enclosed “GENERAL TERMS AND CONDITIONS OF ENQUIRY AND CONTRACT FOR THE PURCHASE OF GOODS”

- 9) In case your terms of payment are different from our standard payment terms, interest at the rate of 10.5% per annum (or BHEL’s standard rate of interest) will be loaded to your prices for the difference of period of payment.**



BHARAT HEAVY ELECTRICALS LIMITED
CORPORATE R&D Division
Vikasnagar, Hyderabad – 500093, India.

Suppliers' compliance statement to basic conditions of enquiry

(In case Order to be placed on Indian supplier in Indian currency)

Condition	BHEL R& D's terms	Supplier's compliance (indicate Yes/No. if 'No', state terms desired)
1) Validity of offer	90 days from the tender opening date	
2) Delivery requirements	Free delivery at our stores or FOR destination (as indicated in the enquiry)	
3)Warranty	Unless specifically mentioned in the enquiry, all supplied items to be provided with warrantee for one year (or more, if provided by the OEM) from the date of acceptance/commissioning. In case of equipment involving erection and commissioning, warrantee shall be for 18 months from the date of dispatch or 12 months from the date of commissioning, whichever is earlier	
4) Terms of payment	Full payment will be made within thirty days after receipt, inspection and acceptance of the material at BHEL R&D (and where involved, erection and commissioning of the material/equipment at BHEL/destination), by Crossed Cheque and no Bank commission charges are admissible.	
5) Taxes & Duties	Unless specifically mentioned in the enquiry, we do not provide 'C' or 'D' form. Supplier to specify rates of taxes and duties element wise and related percentages.	
6) Penalty for late delivery	0.5% per week beyond the delivery date as mentioned in the Purchase order on undelivered portion subject to a maximum of 10% of the total order value	

* BHEL R&D reserves the right to reject any offer due to non-compliance with the above conditions and/or non-receipt of this form in duly filled condition

* Any other elements of cost in addition to the above may please be specified in detail

(Signature and Stamp/Seal of Vendor)



BHARAT HEAVY ELECTRICALS LIMITED
CORPORATE R&D Division
Vikasnagar, Hyderabad – 500093.

IMPORTED

Suppliers' compliance statement to basic conditions of enquiry

(In case Order to be placed on the Principal and foreign currency)

Condition	BHEL R& D's terms	Supplier's compliance (indicate Yes/No. if 'No', state terms desired)
01) Validity of offer	90 days from the tender opening date (or as per enquiry)	
02) Delivery requirements	FCA – Nearest International Airport (or as indicated in the enquiry)	
03) Warranty	Unless specifically mentioned in the enquiry, all supplied items to be provided with warrantee for one year (or more, if provided by the OEM) from the date of acceptance/ commissioning. In case of equipment involving erection and commissioning, warrantee shall be for 18 months from the date of dispatch or 12 months from the date of commissioning, whichever is earlier	
04) Terms of payment	Sight draft. All bank charges inside India will be to BHEL R&D account and out side India will be to suppliers account. Documents through State Bank of India, HAL Complex, Balanagar, Hyderabad, AP, India-500 042.	
05) Agency commission	Pl specify percentage charges, if any. Indian agency/agent commission will be in Indian Currency only.	
06) Erection/ Commission	As per enquiry	
07) Documentation	As per enquiry	
08) Insurance	BHEL will arrange Insurance based on intimation to our Insurance agency, United India Insurance Co., DO-2, Secunderabad, AP, India.	
09) Penalty for late delivery	0.5% per week beyond the delivery date as mentioned in the Purchase order on undelivered portion subject to a maximum of 10% of the total order value	

* BHEL R&D reserves the right to reject any offer due to non-compliance with the above conditions and/or non-receipt of this form in duly filled condition

* Any other elements of cost in addition to the above may please be specified in detail

(Signature and Stamp/ Seal of Vendor)



BHARAT HEAVY ELECTRICALS LTD.
Corp. R&D DIVISION
VIKAS NAGAR,
HYDERABAD-500 093 (INDIA)

VENDOR REGISTRATION FORM

[FORM TO BE SUBMITTED* BY THE BIDDER ALONG WITH TECHNICAL-BID]

Before filling please refer to instructions on page-4

1.0 VENDOR PROFILE:

1.1 & 1.2 Name and address of the vender:

Phone Nos.:

Fax No.:

Email:

1.4 Local representative of the vender in India/ Hyderabad:

Phone Nos.:

Fax No.:

Email:

Contact person:

Mobile No.:

2.0 & 2.1 Type of Organisation:

PROPRIETORSHIP	COMPANY	SISTER CONCERN	ANY OTHER (Please specify)
PARTNERSHIP	CORPORATION	Small Scale Industry	

3.0 Annual Turn Over:

Name and address of the Banker:

Sr.No.	Bank	Address

4.0 REGISTRATION PARTICULARS

4.1 IT Permanent Account No.(PAN):

4.2 & 4.3 State and central sales tax Registration No.:

4.4 ED/ Service Tax Registration No.:

PF Account No.:

Labour Licence No.:

ESI Account No.:

5.2 Contact person:

Mobile No. :

5.3 Total Number of employees:

Graduates (Engr./Scientists/Mgmt/Fin.)	Consultants	Workers		
		Sup./Skilled	Semiskilled	Unskilled

6.0 Wish to register for supplies/ services other than one bidding for :

<u>Sr.No.</u>	<u>Service/Supplies</u>	<u>Capacity</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		
<u>7</u>		

6.1 Reference list :

(Only recognized public and private sector companies, attach if printed copy available)

<u>Sr.No.</u>	<u>Customer</u>	<u>Volume / Year</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		
<u>7</u>		

7.0 & 8.0 Infrastructure / facilities :

<u>Sr.No.</u>	<u>Facility (with specifications)</u>	<u>Age/ Year procured</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		
<u>7</u>		
<u>8</u>		
<u>9</u>		
<u>10</u>		

9.0 Registration with other BHEL Unit/Units:

<u>Sr.No.</u>	<u>9.1.1 Unit</u>	<u>9.1.2 Registration No.</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		

Any Other information :

Declaration:

The information furnished above is true and authentic.

(CEO / Proprietor)

SEAL:

Date:

The competent authority reserves the right to accept or reject the registration. Registered vendors will be informed by mail / email, as convenient. Contact Sr.DGM (MM) for clarification/ additional information on registration.
A separate communication will be sent to you in case of non-registration, citing reasons thereof.

Instructions

1. Answer all items, use NA for items not applicable.
2. BHEL units do not require this registration.
3. Submit the form in duplicate.
4. Use additional sheets for want of space if required.
5. Attach copies of latest documents in respect of items 4.0 (Registration no.s)
6. Photographs of registered office and the chief executive/proprietor shall be furnished.
7. Use A4 sheets for this document and the enclosures.

* REGISTERED BIDDERS, HAVING BHEL (R&D) REGISTRATION NO./ HAVE SUBMITTED THIS FORMAT EARLIER, NEED NOT FURNISH THIS INFORMATION SECOND TIME (UNLESS DESIRE TO UPDATE IT).



BHEL CORPORATE R & D
VIKAS NAGAR- HYDERABAD - 500 093
ANDHRA PRADESH – INDIA
SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

ALL COLUMNS SHOULD BE PROPERLY FILLED IN THE SPACE PROVIDED FOR. WHEREVER IT IS NOT APPLICABLE PLEASE WRITE “NOT APPLICABLE”. INCOMPLETE OR INCORRECT FORMS MAY NOT BE CONSIDERED.

1.0 GENERAL INFORMATION:

1.1....NAME OF COMPANY

1.2....DETAILS OF HEAD OFFICE:

ADDRESS :
TELEPHONE :
FAX :
.EMAIL :
.WEB SITE :

1.3....DETAILS OF FACTORY/WORKS:

ADDRESS :
TELEPHONE :
FAX :
.EMAIL :
.WEB SITE :

1.4....DETAILS OF MARKETING AGENT

ADDRESS :
TELEPHONE :
.FAX :
.EMAIL :
.WEB SITE :

1.5 CHIEF EXECUTIVE

NOTE: PLEASE ATTACH SEPARATE SHEETS, IF SPACE FOUND IS INADEQUATE

AUTHORISED SIGNATORY



BHEL CORPORATE R & D
VIKAS NAGAR – HYDERABAD – 500 093
ANDHRA PRADESH – INDIA

SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

- 1.6 CONTACT PERSON(S)
FOR PRODUCT OFFERED
NAME(S)
OFFICIAL CAPACITY
ADDRESS:
TELEPHONE
FAX
E-MAIL
- 1.7 YEAR OF ESTABLISHMENT
- 1.8 PRODUCTION CAPACITY PER ANNUM
- 1.9 PARTICULARS OF PRODUCT INCLUDING
SPECIFICATION AND RANGE OFFERED
FOR REGISTRATION
(ATTACH BROCHERS AND CATALOGUE)
- 1.10 NAME(S) OF BANKERS
- 1.11 BANKER'S CERTIFICATE
- 1.12 PORT OF LOADING
- 1.13 NEAREST AIRPORT
- 1.14 NAME OF THE INDIAN AGENT, IF ANY
WITH AUTHORISATION LETTER
- 1.15 ANY OTHER INFORMATION:

AUTHORISED SIGNATORY



BHEL CORPORATE R & D
VIKAS NAGAR – HYDERABAD – 500 093
ANDHRA PRADESH – INDIA

SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

2.0 FINANCIAL INFORMATION

2.1...TOTAL CAPACITY

2.2...ANNUAL TURN OVER FOR LAST 3 YEARS

2.3...WHEHER CREDIT LICENSE ACCEPTABLE YES/NO

3.0 QUALITY MANAGEMENT SYSTEMS
ENCLOSED FORMAT PART-B

3.1 EXPERIENCE LIST FOR SAME/SIMILAR ITEMS
TO BE ENCLOSED

4.0.....FUTURE EXPANSION PLANS:
(GIVE DETAILS)

5.0 LIST OF ENCLOSURES:
INCLUDING BROUCHERS, CATALOGUES, TECHNICAL
LITERATURE etc...

6.0 ANY OTHER INFORMATION

SIGNATURE OF SUPPLIER
NAME
DESIGNATION
DATE
.....OFFICIAL SEAL

AUTHORISED SIGNATORY
