

**BHARAT HEAVY ELECTRICALS LIMITED**

CORPORATE RESEARCH &amp; DEVELOPMENT DIVISION

VIKASNAGAR, HYDERABAD - 500 093, INDIA

**ENQUIRY**

PHONES: 23774494 (EXCHANGE)

DIRECT: 23882104/23882204/

23778474/23776772

FAX : 91 40 23770698

RD:DP:MPX:F-04

To

-

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

350790391 20-NOV-07 27-DEC-07

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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	2800 kV/140 kJ IMPULSE VOLTAGE GENERATOR, POTENTIAL DIVIDER, CONTROLS AND ASSOCIATED ACCESSORIES (AS PER THE SPECIFICATION NO. PSHVE:07:001)	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 compliance statement, mentioning applicable duties, taxes etc., and delivery time clearly, (terms, conditions and compliance form enclosed)

B) A copy of the price bid without the prices (unpriced price 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) Guarantee Certificate : Required

5) Manufacturer's Test Certificate : Required

6) Erection & Commissioning : Required

7) Accessories and Spares : 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 will 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

Yours faithfully  
for

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)

BHARAT HEAVY ELECTRICALS LTD

KAKKAR PK  
Sr Manager

Email: pkkakkar@bhelrnd.co.in



**BHARAT HEAVY ELECTRICALS LTD.,**  
CORPORATE R&D DIVISION  
VIKAS NAGAR, HYDERABAD-500093 (INDIA)

Enquiry No. :

Date :

15/ 11/ 2007

**PURCHASE SECTION**

0091 40 2377 8474

0091 40 2377 6320 (F)

Mr. P.K. Kakkar

pkkakk@bhelrnd.co.in

**TECHNICAL SECTION**

**PHONE:** 0091 40 2388 2334

0091 40 23776320 (F)

**Contact:** Mr. S.Rengarajan

**E-mail:** srenga@bhernd.co.in

**SPEC.NO.**

**PSHVE:07:001**

**SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR IMPULSE VOLTAGE GENERATOR**

**Important**

1. Vendor must submit complete information against clause no. 15.0 The offer meeting this clause would only be processed.
2. The offer and all documents enclosed with offer should be in **English language only**.
3. BHEL reserves the right to verify the information submitted by the vendor. **The offer with false/ incorrect/incomplete information may be rejected**
4. Vendor shall sign and stamp all sheets
5. Offers submitted shall be valid for a period of minimum 8(eight) months from date of commercial bid.
6. Revised technical bid may be necessary should the specification need up gradation/ modification on first technical scrutiny.

**ADDRESS OF THE SUPPLIER :**

**ADDRESS OF THE INDIAN AGENTS :**

**TELEPHONE NOS.:**

**TELEPHONE NOS.:**

**FAX NOS.:**

**FAX NOS.:**

**CONTACT PERSON:**

**CONTACT PERSON:**

**E-MAIL ADDRESS :**

**E-MAIL ADDRESS :**

**SCOPE:** Design, manufacturing, pre-despatch testing, supply, installation at site and commissioning of an "Impulse Voltage Generator" and related accessories complying with following specifications and training of BHEL staff.

**Quantity:** **ONE (1) Set**

Serial No.	DESCRIPTION OF REQUIREMENT	DESIRED TECH. SPECIFICATION ( TO BE CONFIRMED BY VENDOR)	OFFERED	DEVIATIONS (IF ANY, ELSE PRINT NONE)	REMARKS
1.0	EQUIPMENT: 2800 kV/140 kJ Impulse Voltage Generator (IVG), controls and associated accessories.				

Serial No.	DESCRIPTION OF REQUIREMENT	DESIRED TECH. SPECIFICATION (TO BE CONFIRMED BY VENDOR)	OFFERED	DEVIATIONS (IF ANY, ELSE PRINT NONE)	REMARKS
1.1	<b>Intended Use:</b> The IVG will primarily be used for developmental tests on metal clad power equipment like GIS (rated up to 765 kV) and solid insulations in gaseous insulating medium. It will also be used for impulse testing of other UHV power equipment and components. The maximum capacitive load envisaged is <b>3500-4000 pF including the divider</b> . The equipment shall be capable of operation in following three modes:	Vendor to confirm suitability of offered equipment			
	<b>Voltage Mode</b> -All Stages in Series	Vendor to confirm suitability of offered equipment			
	<b>Mixed Mode</b> - Series / Parallel combination of stages.				
	<b>Custom Mode</b> - One stage to test motor coils (0.3/3 as per IEC; C=3 nF ,L= 600-800 µH) with external circuit of resistors. The IVG divider and a separate oscilloscope (Indenter) will be used for capturing the wave form. This will be quoted as an optional item.				
1.2	The equipment shall be designed to operate in a shielded chamber (Maximum size: <b>24000 mm diameter x 20000 mm</b> (clear height) .	Vendor to confirm suitability			
1.3	The supplier should suggest a complete arrangement (and its implementation plan) for earthing the IVG, so that the test system is perfect and no abnormal voltage rise and ground interferences is encountered due to the grounding system during the operation of Impulse generator, especially during flashovers. In case the indenter has to design the grounding system, the supplier shall agree to vet the design prior to placement of order and shall ensure guaranteed performance. Required parameter shall be furnished by BHEL. It is the supplier's responsibility to match the grounding system and the return current path of the offered Impulse voltage generator.	Vendor to suggest a tentative scheme for a grounding system of resistance <1 Ohm, with the technical bid.			
1.4	The complete equipment and accessories shall be wired for <b>415 V (AC-50Hz) 3P + 1 N</b> system	Vendor to confirm			
	<b>2.0 SPECIFICATION :</b>				
	<b>2.1 IMPULSE GENERATOR CIRCUIT</b>				
2.1.1	Cumulative Charging Voltage	(+/-) 2800 kV			
2.1.2	Energy	140 kJ			
2.1.3	Voltage per Stage	200kV			
2.1.4	Number of stages	14			
2.1.5	Number of capacitors	Vendor to confirm			
2.1.6	Max. Charging time to full voltage	60 s			
2.1.7	Generator height above ground, mm	11000			
2.1.8	Top electrode suitable for maximum switching as well as lightning Impulse Voltages (both polarities).	To be deigned and provided by vendor			
2.1.9	Minimum clearance to nearest earth, mm	6500			
2.1.10	Mounting arrangement	Air cushion- Vendor to quote separately as an optional item			

Serial No.	DESCRIPTION OF REQUIREMENT	DESIRED TECH. SPECIFICATION ( TO BE CONFIRMED BY VENDOR)	OFFERED	DEVIATIONS (IF ANY, ELSE PRINT NONE)	REMARKS
2.1.11	<b>Design</b> : Marx circuit for standard lightning impulse and switching impulse as per IEC 60060-1	Vendor to confirm			
2.1.12	Lightning and switching voltage levels as per efficiency. For 4000pF load LI=2100 kVp; SI=1425 kVp	Vendor to confirm			
2.1.13	<b>SPARK GAP</b> : Enclosed , totally protected and maintenance free spark gaps. Spark gap adjustment should be automatic and continuous with the variation of charging voltage. Precise firing on the application of trigger pulse.	Vendor to confirm			
2.1.14	Method of sparking should be based on a well proven design	Vendor to confirm			
2.1.15	<b>Resistors</b> : Simple plug in type, with high thermal stability and very low inductance. Colour code to identify different types of resistors. Changing of resistors without dismantling of other components.	Vendor to confirm			
2.1.16	Total circuit inductance should be made minimum and the wave shapes should be clear without overshoots or oscillations for the entire voltage range up to the full load. In case, any overshooting compensation is required, it shall be automatic and included in the scope of supply.	Vendor to confirm			
2.1.17	Modular design with internal ladders and platforms to access any part of the generator easily.	Vendor to confirm			
2.1.18	The impregnated oil must have environment compatibility.	Vendor to confirm			
2.1.19	Lowest voltage achievable.	50 kV or less			
	<b>2.2 IMPULSE VOLTAGE DIVIDER</b>				
2.2.1	Lightning Impulse rating at 4000 pF - Minimum Voltage	(+/-) 2100 kV			
2.2.2	Switching Impulse rating at 4000 pF - Minimum Voltage	(+/-) 1425 kV			
2.2.3	Output and mode of signal transmission	Vendor to specify			Optical mode shall be preferred
2.2.4	Maximum self Capacitance	600 pF			
2.2.5	Measurement Accuracy and unit step response ( Including measurement circuit)	1.00%			
2.2.6	Divider's total height above ground, mm	10500			
2.2.7	Size of high voltage electrode	To be designed and provided by vendor			
2.2.8	Minimum clearance to nearest earth, mm	9500			
2.2.9	Mounting,	Scratch proof Castor Wheels			
2.2.10	The divider shall be a very low inductance capacitive voltage divider with built in damping resistors.	Vendor to confirm			
2.2.11	The capacitor elements are immersed in oil and kept in fibre glass reinforced epoxy tubes.	Vendor to confirm			
2.2.12	The divider should be able to measure full lightning impulses and switching impulses with an accurate response to sharp wave fronts( 100ns).	Vendor to confirm			
2.2.13	Dynamic response and other parameters of the divider shall be in line with IEC 60060-2 (1994)	Vendor to confirm			

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<b>2.3</b>	<b>CHARGING UNIT/ HIGH VOLTAGE POWER SUPPLY</b>				
2.3.1	Rated Output Voltage, kV	200/ 100(+/-)			
2.3.2	Maximum Charging Current, Amps	Vendor			
2.3.3	Maximum Charging rate, Amps/sec	Vendor			
2.3.4	Charging frequency	Vendor			
2.3.5	Duty Cycle	Vendor			
2.3.6	Charging technique	Vendor			
2.3.7	Input current (415 V-50Hz)	Vendor			
2.3.8	Input Power, kVA	Vendor			
2.3.9	Polarity reversal ; Automatic with a switch operation.	Vendor to confirm			
2.3.10	The charging unit shall be operated from the control unit. The system automatically takes care of the efficiency so that the operator directly deals with the test voltage.	Vendor to confirm			
2.3.11	The Maximum KVA demand (2.3.8) for the proposed equipment at rated parameters shall be added to the cost to BHEL with reference to the lowest offered. The cost of buying energy and carbon credits shall form basis for this consideration. Energy shall be calculated on an average for 5000 hours for first 10 Years.	Vendor to agree			
<b>2.4</b>	<b>DIGITAL CONTROL SYSTEM</b>				
2.4.1	Desk Top Display	19" TFT			
2.4.2	Protection from dust and dirt	Vendor			
2.4.3	EMC/EMI Shielding	As per IEC			
2.4.4	OS	Windows			
2.4.5	Interaction in Manual mode	by prompting			
2.4.6	RAM	2GB			
2.4.7	HDD	2 x 80 GB			
2.4.8	Processor	Minimum- Dual Core			
2.4.9	Accessories	As required			
2.4.10	Controls	SOFT			
2.4.11	Intelligent control system, with state of art design. This unit shall control all operation of the generator automatically based on a software. In addition, manual operation shall be provided which also includes waveform capturing exclusive of the A/D converter..	Vendor to confirm			
2.4.12	The unit should be able to execute the automatic test sequence, once programmed.	Vendor to confirm			
2.4.13	The control unit shall be capable of full display of the wave shape, with various events like, flashover, failures, trip settings etc.	Vendor to confirm			

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2.4.14	<b>Essential Features:</b> Auto/manual operation, HV ON/OFF, generation of trigger pulse, Trigger synchronisation, Polarity selection, Selection of test voltage, Charge current, number of shots to be applied and the time interval between shots, Emergency switch, over voltage and current protection, Safety protections and warnings, Impulse counters, Impulse efficiency indication, peak voltage indication, Data transfer to Impulse analyser. Failure and flashover indication, abrupt stop in case of emergency and auto- grounding of stage capacitances.	Vendor to confirm			
<b>2.5 DIGITAL IMPULSE ANALYSER</b>					
2.5.1	Number of channels	2			
2.5.2	Minimum Sampling rate per channel	100 MS/Sec			
2.5.3	Minimum Resolution	12 bit			
2.5.4	Minimum Band width	DC- 70 MHz			
2.5.5	Input Voltage	Vendor			
2.5.6	Over Voltage protection	Yes			
2.5.7	OS	Windows			
2.5.8	The system capable of recording the waveform in a digital form for further analysis as per IEC 61083-1 and 2. This shall include the application for impulse voltage testing with complete parameter evaluation. Further data comparison, processing and evaluation of data, calibration procedure (IEC 61083) by a software and report format should be available. Waveform definition and parameters shall be displaced on screen instantaneously.	Vendor to confirm			
2.6	<b>CURRENT SHUNT:</b> Suitable current shunt for the measurement of current and the necessary protection from high voltage iduring flashovers. Safety to instrument and the operating personnel should be given importance. High frequency current measurement device may be offered as additional (optional) accessory.	Vendor			
<b>2.7 CONNECTING CONTROL CABLES</b>					
2.7.1	Minimum Length, Meters	50			
2.7.2	Shielding	YES			
2.7.3	Armouring	YES			
2.7.4	Termination	Suitable connectors			
2.7.5	Minimum Cross section, sq.mm	2.5			
2.7.6	Insulation Voltage Rating (AC-50 Hz)	Vendor			
<b>3.0 AMBIENT CONDITIONS &amp; THERMAL STABILITY :</b>					
3.1	The equipment including all supplied items should work trouble free and efficiently under following operating conditions and should give specified performance.	Vendor to confirm			
3.2	Tropical dust laden	5-50 °C			
3.3	Relative Humidity	95% max			

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<b>4.0</b>	<b>PRE-DESPATCH INSPECTION (PDI)</b>				
4.1	All routine and type tests shall be performed at supplier's works on all components of the system before dispatch in presence of BHEL representatives. List of tests proposed shall be furnished along with the technical offer. The test schedule will be provided by the supplier.	Vendor to confirm			
4.2	Calibration tests on Impulse Measurement system as per IEC standards.	Vendor			
<b>5.0</b>	<b>OPTIONAL ACCESSORIES:</b>				
	The vendor shall submit list of optional accessories with technical offer.	Vendor			
<b>6.0</b>	<b>DOCUMENTATION :</b>				
6.1	Four sets of following documents (Hard Copies ) in English should be supplied along with the machine.	Vendor			
6.2	Operating manuals for IVG and related Accessories.	Vendor			
6.3	Detailed Maintenance manual with all drawings, circuit diagrams. All Assembly / Sub Assembly Drawings shall also be supplied including part list.	Vendor			
6.4	Test and Guarantee certificates	Vendor			
6..5	Catalogues of all bought out items including drawings where ever applicable.	Vendor			
6.6	Complete Master List of parts used in the machine shall be supplied by the vendor.	Vendor			
6.7	SOFT COPY of all above documentation on CD ROM, wherever applicable				
<b>7.0</b>	<b>TRAINING:</b>				
7.1	BHEL staff to be trained for acquaintance on operation and maintenance of supplied equipment <b>at the indenter's premises</b> , persons shall be trained for mutually agreed period in area of use of all IVG features, operating instructions, warnings and precautions, location and functions of control instrumentation, interlocks, preventive and periodic maintenance, operating limitations, any unique or potentially hazardous condition which could affect safe operation, supplied Accessories, etc.	Included/ charged			
7.2	Competent English speaking experts shall be <b>deputed</b> by the vendor during the commissioning and training for satisfactory and effective training of BHEL staff.	Vendor to confirm			

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<b>8.0</b>	<b>COMMISSIONING/ DEMONSTRATION :</b>				
8.1	Commissioning spares, required for the commissioning of equipment within stipulated time shall be brought by supplier on the returnable basis.	Required			
8.2	Charges, if any, duration and terms and conditions for commissioning and demonstration should be furnished in detail separately by the vendor along with the offer. <b>The offers shall be evaluated including commissioning charges and other incidentals on " total cost to BHEL" basis.</b>	Required			
8.3	Demonstration of all features of the machine, control system and the accessories	Required			
<b>9.0</b>	<b>SPARES AND SERVICE :</b>				
9.1	Spares for trouble free operation for 2 years to be supplied along with main equipment. List of back up spares, if any, for additional two year shall be provided.	Vendor to confirm			
9.2	Vendor shall support availability of spares and maintenance workforce for 10 years from date of commissioning.	Vendor to confirm			
9.3	Vendor shall provide proof and details of servicing base facility, spare parts availability, etc. in India/Asia.	Vendor to confirm			
<b>10.0</b>	<b>SAFETY ASPECTS:</b> The supplier must take care of all safety aspects regarding the equipment and operating personnel. The generator system should have adequate and reliable interlocks to avoid any system damage and ensure personnel safety. The generator and the divider should not cause any flashover even at the maximum lightning and the switching impulse voltages. The equipment must have an integrated safe grounding system which shall discharge all capacitors in events of abnormality during testing.				
<b>11.0</b>	<b>PACKING :</b> Air / Sea worthy rigid packing for all items of complete equipment, all accessories and other supplied items to avoid any loss / damage in transit. When equipment is dispatched in containers, all small loose items shall be suitably packed in boxes.	Vendor to confirm			
<b>12.0</b>	<b>PERFORMANCE GUARANTEE :</b> 12 months from the date of commissioning and acceptance of equipment.	Vendor to confirm			



Serial No.	DESCRIPTION OF REQUIREMENT	DESIRED TECH. SPECIFICATION ( TO BE CONFIRMED BY VENDOR)	OFFERED	DEVIATIONS (IF ANY, ELSE PRINT NONE)	REMARKS
13.0	<b>QUALITY:</b> The Impulse generator must comply to all relevant IEC standards and basically meet IEC 60060				
14.0	<b>GENERAL :</b> The vendor must supply the following information about the proposed equipment along with the offer :	Vendor			
14.1	Machine Model No.	Vendor			
14.2	Total Connected Load (KVA).	Vendor			
14.3	Floor Area Required (Length, width ,height) for complete machine and	Vendor			
14.4	All essential accessories for the satisfactory operation are to be included and listed. Any additional accessories are to be mentioned separately.	Vendor			
14.5	Total weight of machine.	Vendor			
14.6	Weight of heaviest part of machine	Vendor			
14.7	Weight of heaviest assembly/ sub-assembly of machine.	Vendor			
14.8	Dimensions of largest part/ sub-assembly/ assembly of machine	Vendor			
14.9	Vendor to supply, along with the offer , reference list of customers where similar machines have been supplied, mentioning broad specifications of supplied machines.	Vendor			
14.10	Detailed catalogue, sketch / photographs of the machine and accessories / attachments should be submitted with the offer	Vendor			
14.11	Compliance to standards: The equipment and the wave shapes shall be as per IEC 60060. The components of the IVG shall similarly comply to	Vendor			
14.12	Load bearing capacity and the floor requirement	Vendor to confirm			
15.0	<b>Qualification Requirements:</b>				
	The supplier should be of International repute and should have supplied IVG of similar rating or higher capacity for at least ten years. The supplier must have service outlets/ service personnel in India to support the equipment as and when required by BHEL. <b>The equipment offered must be a proven one and should have been deployed for a long period (more than 5 years) with trouble free operation.</b> The supplier must submit, along with his quotation, three references (and contact details) to whom the supplier has supplied a similar / higher rating impulse generator ( <b>made as per design offered</b> ) along with their citations for satisfactory service by such IVGs after commissioning (preferably one such reference must be within India). <b>This is minimum qualifying criterion.</b> In addition following information shall be enclosed with the technical offer:	Vendor to confirm			
15.1	Name of the customer / company where similar machine is installed in India	Vendor to confirm			
15.2	Month and year of commissioning. (copy of latest purchase order to be enclosed)	Vendor			
15.3	Application for which machine is supplied (Optional).	Vendor			
15.4	Contact person	Vendor			





## 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)**

<b>Condition</b>	<b>BHEL R&amp; D's terms</b>	<b>Supplier's compliance</b> (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)**

<b>Condition</b>	<b>BHEL R&amp; D's terms</b>	<b>Supplier's compliance</b> <b>(indicate Yes/No. if 'No', state terms desired)</b>
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:

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Phone Nos.:

Fax No.:

Email:

1.4 Local representative of the vender in India/ Hyderabad:

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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:**

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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.

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### **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.

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\* 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

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AUTHORISED SIGNATORY

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**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:

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AUTHORISED SIGNATORY

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**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

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AUTHORISED SIGNATORY

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