



**BHARAT HEAVY ELECTRICALS LIMITED** PHONES: 23774494 (EXCHANGE)

CORPORATE RESEARCH & DEVELOPMENT DIVISION

VIKASNAGAR, HYDERABAD - 500 093, INDIA

FAX : 91 40 23770698

RD:DP:MPX:F-04

## ENQUIRY

To

OFFICE COPY

ZZ9999

Enquiry No:	Enq Date:	Due Date:	Delivery By:
331105881	07-DEC-11	10-JAN-12	29-FEB-12

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	THREE PHASE INVERTER STACK AS PER ATTACHED SPECIFICATION.	NO	5
1	<p>COMPLETELY FILLED UP AND SIGNED VENDOR COMPLIANCE STATEMENT IS REQUIRED ALONG WITH YOUR OFFER. OTHERWISE YOUR OFFER WILL NOT BE PROCESSED FURTHER.</p> <p>a) ALL OFFERS MUST INCLUDE NAME OF CONTACT PERSON, PH / MOBILE. NO., FAX NO.; EMAIL-ID. UNSIGNED OFFERS ARE LIABLE FOR REJECTION.</p> <p>b) BEING A RESEARCH INSTITUTION RECOGNISED BY DEPT OF SCIENCE AND TECHNOLOGY, BHEL R&amp;D CAN AVAIL CENTRAL EXCISE DUTY EXEMPTION IN TERMS OF GOVT NOTIFICATION 16/2007 - CENTRAL EXCISE DATED 1.3.2007. HENCE SUPPLIERS ARE REQUESTED TO SUBMIT THEIR BIDS WITH OUT EXCISE DUTY.</p> <p>c) TAXES &amp; DUTIES QUOTED WILL BE TAKEN FOR COST EVALUATION &amp; ORDER PLACEMENT AND NO CHANGE WILL BE ENTERTAINED LATER EXCEPT IN THE CASE OF CHANGES MADE BY THE GOVERNMENT. IN CASE ANY TAXES/DUTIES EXEMPTED, A SELF DECLARATION FOR THE SAME MAY BE ATTACHED TO THE OFFER. CHANGES IN TAXES AND DUTIES BECAUSE OF THE CHANGES IN TURNOVER ETC. WILL BE TO SUPPLIER'S ACCOUNT.</p> <p>d) WHEREVER VENDOR REGISTRATION FORM AND EFT DETAILS HAVE BEEN SUBMITTED EARLIER, THE SAME NEED NOT BE SUBMITTED AGAIN UNLESS THERE IS A CHANGE.</p>		
2	<p>PLEASE SUBMIT YOUR OFFER IN TWO PARTS AS PER ENCLOSED "GENERAL TERMS AND CONDITIONS OF ENQUIRY, LOADING FACTORS &amp; CONTRACT FOR THE PURCHASE OF GOODS/ SERVICES" IN SEPARATE SEALED COVERS AS DETAILED BELOW:</p> <p>1) FIRST COVER SHALL CONTAIN A) TECHNICAL &amp; COMMERCIAL BID, B) COMPLIANCE STATEMENT, DULY FILLED-IN, C) UN-PRICED PRICE-BID, I.E. A COPY OF PRICE-BID, WITH PRICE(S) CELLS LEFT BLANK;</p> <p>2) SECOND COVER SHALL CONTAIN PRICE BID. IF THE PRICE BID IS FOUND TO BE DIFFERENT FROM THE UN-PRICED PRICE BID IN ANY WAY, THE OFFER IS LIABLE FOR REJECTION.</p>		
3			
4	ORDER WILL BE PLACED ON OVERALL L1 BASIS. VENDORS SHALL QUOTE FOR ALL ITEMS. INCOMPLETE OR PARTIAL OFFERS SHALL NOT BE PROCESSED.		
5	GUARANTEE CERTIFICATE REQUIRED.		
6	MANUFACTURER'S TEST CERTIFICATE REQUIRED.		
7	INDIAN VENDORS : DESTINATION SHALL BE BHEL R&D STORES HYDERABAD.		

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**ENQUIRY**

FOREIGN VENDORS : BHEL R.O.D. OFFICE MUMBAI INDIA.	
8	ALL OFFERS SHALL BE VALID FOR A PERIOD OF 90 DAYS FROM THE DAY OF OPENING TECHNICAL BIDS.
9	ALL INDIAN OFFERS SHALL BE QUOTED AS: FOR BHEL R&D STORES, HYDERABAD. ALL FOREIGN SUPPLIERS SHALL QUOTE FOR FCA NEAREST INTERNATIONAL AIRPORT/ SEA PORT ONLY.
10	a) FOR INDIAN OFFERS : OUR STANDARD PAYMENT TERMS AS "100% PAYMENT ALONG WITH TAXES BY EFT/RTGS WITHIN 30 DAYS OF RECEIPT AND ACCEPTANCE OF MATERIAL AT BHEL R&D STORES, HYDERABAD". FOR OTHER PAYMENT TERMS THERE WILL BE A LOADING ON YOUR OFFER AS MENTIONED IN OUR "LOADING FACTORS" SHEET WHICH IS ENCLOSED TO THIS ENQUIRY. b) FOR FOREIGN CURRENCY OFFERS : BHEL STANDARD PAYMENT TERMS ARE "100% INVOICE VALUE BY WIRE TRANSFER WITHIN 30 DAYS OF RECEIPT AND ACCEPTANCE OF CONSIGNMENT AT BHEL R&D STORES, HYDERABAD". FOR OTHER PAYMENT TERMS THERE WILL BE A LOADING ON YOUR OFFER AS MENTIONED IN OUR "LOADING FACTORS" SHEET WHICH IS ENCLOSED TO THIS ENQUIRY.
11	SUPPLIERS SHALL HONOR DELIVERY DATE SPECIFIED IN THEIR OFFER. IN CASE OF DELAY BEYOND SPECIFIED DELIVERY DATE A PENALTY OF 0.5% PER WEEK ON THE VALUE OF UNDELIVERED PORTION OF BASIC MATERIAL COST SUBJECTED TO A MAXIMUM OF 10% OF ORDER VALUE, SHALL BE APPLIED AS PENALTY. IN CASE OF NON ACCEPTANCE TO THIS LD CLAUSE, 10% OF BASIC MATERIAL COST WILL BE LOADED ON THE QUOTED PRICES WHILE COST COMPARISION.

PLEASE QUOTE ON FOB BASIS ONLY

Yours faithfully

for

BHARAT HEAVY ELECTRICALS LTD

BHASKARA REDDY P

Sr Dy Gen Manager

**Email: pbreddy@bhelrnd.co.in****Direct Phone : 91-40-23882404****Mobile : 91- 9849012865**

## **SPECIFICATIONS OF IGBT BASED THREE PHASE INVERTER STACK**

1. **TITLE:** IGBT-based Three Phase Inverter Stacks

2. **QUANTITY:** 5 Nos.

### **3. INTRODUCTION**

The three phase IGBT inverter stack is intended for converting DC power of solar PV array to AC power at required voltage and frequency for exporting to the power distribution grid. When sufficient solar power is not available the IGBT stack will be used for injecting reactive power to the grid, such that overall kVA rating of the stack is not exceeded. The scope of supply includes IGBTs with gate drivers, connected in three phase bridge configuration on suitable heat sinks with cooling fans for forced air cooling, suitable DC link capacitor and snubber circuit. Suitable Thermal trip switch with potential free contacts should be mounted on heat sink for the purpose of thermal protection. The offered stack should be highly efficient and short circuit proof. The components and technology used should ensure high efficiency and reliable. Modular construction should be adopted. The offered Inverter stack should have in-built protections against dc link shoot through fault due to wrong pulses to IGBTs and line to line fault at ac output terminals. The mechanical design of the stack should be maintenance and replacement friendly.

### **4. DETAILED SPECIFICATIONS**

- a) Stack Configuration: 3-Phase IGBT Inverter
- b) I/P DC Link Voltage : 1100 V  $\pm$  5 % continuous
- c) O/P AC Voltage : 3-ph, 720 V L-L, 50Hz
- d) O/P AC Current : 500 A continuous
- e) Load Power factor : 0.1 (lagging) to unity
- f) Switching Frequency : 2.5 kHz
- g) Fundamental O/P frequency :50 Hz
- h) Duty Class : 100% Continuous & 150% for 60 Sec occasionally.
- i) DC Link Capacitance: The capacitor bank of the offered 500kVA stack should be able to supply harmonic current when operating at switching frequency of 2.5 kHz. The capacitor bank should be connected to inverter limbs through sandwiched bus bars. The equivalent capacitance and voltage rating of the DC link capacitor bank should be more than or equal to 20000  $\mu$ F and 1300 V, respectively .

- j) Ambient Temperature :- 45 Deg. Celsius
- k) Type of cooling :- Forced air
- l) Built-In Protections: Protections against dc link shoot through fault due to wrong pulses to IGBTs, line to line fault at ac output terminals and thermal protections against excessive heating of IGBTs/ heat sinks through thermal trip switches.
- m) Gate Drivers: The offer should include suitable gate drivers for IGBTs. The gate drivers should have optical inputs to receive inputs and should have IGBT healthy status through optical output. It should have in-built protections against shoot through fault, over current and high di/dt. Also It should generate isolated power supply from the control power supply.

## 5. GENERAL

- a) The data sheet of the IGBTs of the offered stack must be given along with the offer. The number IGBT modules used and configuration should be indicated clearly.
- b) The data sheet of the offered gate drivers must be given along with the offer.
- c) The heat sink must be of Air-cooled type. The data sheet of the heat sink must be given along with the offer.
- d) The data sheet of the dc link capacitor should be given along with the offer.
- e) If a Snubber circuit is recommended, then the offer must include the snubber circuit components.
- f) The OGA of the power stack must be given in the offer.
- g) The offer must include the detailed temperature-rise calculations for the assembled power stacks for both continuous operation and also for 150% operation for 60sec. (that is, temperatures of IGBT junction, built-in diode junction, Heat sink, Outlet Air temperature, etc for an ambient temperature of 45 degrees C).
- h) The offer should also indicate the maximum value of DC Link voltage and the time duration that the IGBT stack can withstand without any damage.
- i) The suppliers shall submit complete test Program for type and routine tests in the event of order. Type test will be carried out at supplier's premises before dispatch clearance. The supplier should arrange test facility for carrying out type test on stacks.
- j) The offered stack should have mechanical mounting provisions to house it standard panels. These mounting provisions should clearly indicate in OGA of the power stack.
- k) **The supplier should complete the attached compliance sheet in all aspects and submit along with the offer without fail, otherwise the offer will not be evaluated.**

**Technical Compliance Table for 500kVA IGBT Stack**

<b>S.No</b>	<b>Item</b>	<b>BHEL specification</b>	<b>Offered specification</b>
<b>1</b>	<b>Stack Configuration</b>	3-phase IGBT based inverter. The IGBTs should be connected in three phase bridge configuration on suitable heat sinks with cooling fans for forced air cooling	
<b>2</b>	<b>Topology</b>	Two level	
<b>3</b>	<b>kVA rating</b>	500	
<b>4</b>	<b>Rated DC link voltage</b>	1100 V $\pm$ 5%	
<b>5</b>	<b>DC link Capacitance</b>	Minimum 20000 $\mu$ F	
<b>6</b>	<b>Required voltage rating of the dc link capacitor bank</b>	Minimum 1300V	
<b>7</b>	<b>Maximum dc voltage withstand capability</b>	The supplier should mention the maximum value of the dc voltage that the offered stack can withstand without damage to any component.	
<b>8</b>	<b>Current rating of the dc link capacitor bank</b>	The capacitor bank of the offered 500kVA stack should be able to supply harmonic current when operating at switching frequency of 2.5 kHz.	
<b>9</b>	<b>Normal output AC current</b>	500A RMS continuous	
<b>10</b>	<b>Over load capacity</b>	150% of the normal output current for 60sec	
<b>11</b>	<b>Output AC voltage</b>	The offered stack should be suitable to generate ac output voltage of 720V, 3-phase, 50Hz from the 1100V dc with switching signals from the controller	
<b>12</b>	<b>Load power factor</b>	The offered stack should suitable to supply 500A rated RMS current with 1100V dc link at load factor of 0.1 lagging to unity without exceeding the allowable junction temperatures of the IGBTs and diodes	
<b>13</b>	<b>Switching frequency</b>	The offered stack should be able switch at 2.5kHz	

		and also should supply 500A RMS current at this switching without exceeding the allowable junction temperatures of the IGBTs and diodes	
<b>14</b>	<b>Stack should include gate drivers</b>	Specify yes or no	
<b>15</b>	<b>Specifications of gate drivers</b>	The gate drivers should have optical inputs to receive inputs and should give IGBT healthy status through optical output. It should have in-built protections against shoot through fault, over current and high di/dt. Also it should generate isolated power supply from the control power supply.	
<b>16</b>	<b>Connections between capacitors and IGBTs</b>	The dc capacitors should be connected to IGBTs through laminated bus bars to achieve very low stray inductance between capacitor and IGBT connections	
<b>17</b>	<b>Thermal calculations</b>	Detailed temperature-rise calculations for the assembled power stacks for both continuous operation and also for 150% operation for 60sec should be submitted along with the offer, by clearly indicating the junction temperatures of IGBT, built-in diode, heat sink, outlet Air temperature...etc for an ambient temperature of 45 degrees C.	
<b>18</b>	<b>Type of cooling</b>	Forced air	
<b>19</b>	<b>Thermal Trip switch</b>	Thermal trip switch with potential free contacts should be mounted on heat sink for the purpose of thermal protection.	
<b>20</b>	<b>Mechanical design of the stack</b>	The mechanical design of the stack should be maintenance and replacement friendly.	
<b>21</b>	<b>OGA of the stack</b>	The offer should include OGA of the stack. The OGA should clearly indicate the mounting positions of offered stack in the panel	
<b>22</b>	<b>Data sheets</b>	The offer should include data sheets of IGBT, gate driver, heat sink, dc link capacitor, cooling fan and thermal trip switch.	
<b>23</b>	<b>Tests</b>	The offer should include list of type and routine tests that will be carried out at supplier's premises before dispatch clearance.	



RD:MPX:F-20-rev04

**BHARAT HEAVY ELECTRICALS LIMITED**  
CORPORATE R&D DIVISION, VIKAS NAGAR, HYDERABAD – 500 093, AP, India


**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. The Offers of the bidders, whose name appear 'list of banned firms' or engage the services of the firms appearing in this list, shall be rejected. The current list of firms banned by BHEL and banned list of firms received from GOI is available at our web site, [http://www.bhel.com/tender/list\\_tender.php](http://www.bhel.com/tender/list_tender.php). Please click 'banned list'.
3. 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** to be deposited in Tender Box located at Security gate for hand deliveries.  
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.** The rate shall be quoted in both figures and in words.
4. Any Supplier (Agents/distributors/ representatives) desirous of quoting imported goods/ services, they should submit the quote in foreign currency along with agency agreement copy, failing which their offer is liable for rejection. In case of non-submission of agreement copy, the principal should submit quotation to BHEL directly. Foreign suppliers will also indicate in their offer Indian agent's name, if any, 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
5. **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.
6. **Late Tender:** Tenders received after tender due date/ time (12:00 hrs) shall be treated as late tenders and will not be considered.
7. The Quotation should be free from overwriting and erasures. Corrections and additions, if any, must be attested. In case of difference in unit price and corresponding total value or figures or words/text, the buyer (BHEL) reserves the right to select the figures or words/text leading to lowest cost to buyer.
8. Supplier should indicate in the quotation dimensions (Size), weight, rate etc., in the metric system unless the enquiry calls for different unit.
9. **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.
10. 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.
11. **Price Impact:** In the event of any bidder, after finalizing the technical specifications and scope of supply, opting to revise their original bid, they have to submit the Price-Impact only. The Original price bid along with Price-Impact bid shall be opened during pricebid opening. Unsolicited bids will not be considered.
12. **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.
13. **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.
14. **Terms of Delivery:** All Suppliers shall quote the lowest prices on EXW/ FOB/ FCA basis in case of foreign suppliers and on ex-works /Free-on-Rail/Road /F.O.R-destination basis in case of Indian/ indigenous Supplies, indicating packing & forwarding charges if any, separately.

15. **Taxes and Duties:** Unless specified otherwise in the enquiry, BHEL do not provide "C" Form as it is engaged in R&D. All Indian suppliers shall clearly mention current 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 clearly. The vendors should mention applicable Registration Number(s) specifically in their quotation. Being a research institution, BHEL R&D is exempt from Customs duty against direct imports from foreign suppliers and exempt from Central excise duty against indigenous suppliers as per Govt. of India. Hence, suppliers are requested to submit their bids clearly stating applicable taxes/ duties. The quoted taxes/ duties will be taken for cost evaluation & order placement and no change will be entertained later except in the case of changes made by the Government.
16. **Insurance:** Insurance will be arranged by BHEL in case of Ex-Works as well as FCA / FOB basis supplies.
17. **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) through Electronic Fund transfer (RTGS/NEFT/SEFT) with bank charges, if any, to the supplier's account. For foreign suppliers, the preferred payment term will be on wire transfer basis and bank charges inside India will be to BHEL account and outside India will be to supplier's account.
18. **Pricebid evaluation:** All offers in conventional price bid opening or reverse auction, if any, shall be evaluated in Indian currency based on unit price, P&F, taxes/duties, freight charges if any, exchange rate, loading due to non-acceptance of our standard commercial terms. The exchange rate declared by State Bank of India under TT Selling rate on the technical bid open date shall be adopted for evaluating foreign currency bids. 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 commercial terms are different from BHEL standard commercial terms, their offers will be evaluated as per Loading factors form sent along with enquiry.
19. **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.
20. **Part/ Split Ordering:** BHEL reserves right to Order part of the item/ quantity of the enquiry and/or split the order among qualified vendors.
21. 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.
22. **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.
23. **Penalty for late delivery:** 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, 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% of total order value shall be levied at the discretion of BHEL.
24. **Withdrawal from the Contract:** In case the supplier withdraws their offer before placement of order, BHEL reserves the right not to send next enquiry(ies). 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, incidentals due to the breach of contract on the part of the supplier through risk purchase.
25. **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.
26. **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.
27. **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 arbitrator shall be appointed by BHEL from the enlisted panel. 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.



BHEL R&D RD:DP:MPX:F-22		LOADING FACTORS				
NOTE : IN CASE OF DEVIATION TO BHEL TENDER SPECIFIED TERMS, LOADING FACTOR INDICATED IN FOLLOWING TABLE WILL BE APPLIED TO QUOTED PRICE WHILE EVALUATING THE LOWEST QUOTE ( )						
A. FOR INDIGENOUS PURCHASES						
SLNO	SCOPE	COMMERCIAL TERMS	BHEL STANDARD TERM	AS OFFERED	LOADING FACTOR FOR NON COMPLIANCE TO BHEL STANDARD TERMS	
A.1	SUPPLY OF EQUIPMENT	PAYMENT TERMS	100% PAYMENT, WITH IN 30 DAYS FROM THE DATE OF RECEIPT AND ACCEPTANCE OF MATERIAL	SAME  PAYMENT AGAINST PROFORMA INVOICE / DESPATCH DOCUMENT <b>OR</b> CASH ON DELIVERY (COD) / CASH AGAINST PROOF OF DESPATCH  ADVANCE PAYMENT WITH BANK GUARANTEE  PART ADVANCE PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE WITH IN 30 DAYS  PART ADVANCE PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE ON RECEIPT OF MATERIAL	NIL  11% PER ANNUM INTEREST ON THE TOTAL PO VALUE FOR ONE MONTH  11% PER ANNUM INTEREST ON THE TOTAL VALUE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH  11% PER ANNUM INTEREST ON ADVANCE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH  11% PER ANNUM INTEREST ON ADVANCE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT FOR ONE MONTH	
A.2	SUPPLY OF EQUIPMENT INCLUDING E&C	BANK GUARANTEE (PBG) FOR 10% OF THE BASIC VALUE OF THE ORDER VALID FOR WARRANTY PERIOD.)  PAYMENT TERMS (THE SUPPLIER MUST SUBMITT A PERFORMANCE	90% PAYMENT, WITH IN 30 DAYS FROM THE DATE OF RECEIPT AND ACCEPTANCE OF MATERIAL . BALANCE 10% WITH IN 30 DAYS OF COMPLETION OF E&C AND ON SUBMISSION OF PERFORMANCE BANK GUARANTEE (PBG) FOR 10% OF BASIC PO VALUE.	SAME  100% PAYMENT WITH IN 30DAYS AFTER COMPLETION OF SUPPLIES AND ERECTION AND COMMISSIONING 90% PAYMENT AGAINST PROFORMA INVOICE/ DESPATCH DOCUMENT <b>OR</b> CASH ON DELIVERY (COD) / CASH AGAINST DESPATCH AND BALANCE 10% WITH IN 30 DAYS OF E&C 90% PAYMENT AGAINST PROFORMA / DESPATCH DOCUMENT <b>OR</b> CASH ON DESPATCH (COD) / CASH AGAINST DESPATCH AND BALANCE 10% AFTER COMPLETION OF E&C 90% ADVANCE PAYMENT WITH BANK GUARANTEE AND BALANCE 10% WITH IN 30 DAYS OF E&C PART ADVANCE (x%) PAYMENT WITH SUPPORTING BANK GUARANTEE AND (90 - x) % PAYMENT ON RECEIPT OF MATERIAL AND 10% PAYMENT WITH IN 30 DAYS AFTER E&C PART ADVANCE (x%) PAYMENT WITH BANK GUARANTEE AND (90 - x) % PAYMENT ON RECEIPT OF MATERIAL AND 10% PAYMENT AFTER E&C	NIL  NIL (PBG WILL NOT BE INSISTED FROM THE SUPPLIER) 11% PER ANNUM INTEREST ON 90% OF THE VALUE OF PO FOR ONE MONTH  11% PER ANNUM INTEREST ON TOTAL PO VALUE FOR ONE MONTH  11% PER ANNUM INTEREST ON 90% OF THE TOTAL VALUE FOR DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH) + 1 MONTH  11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH)+ 1 MONTH AND 11% PER ANNUM INTEREST ON (90-X)% PAYMENT FOR ONE MONTH  11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH)+ 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT	

SLNO	SCOPE	COMMERCIAL TERMS	BHEL STANDARD TERM	AS OFFERED	LOADING FACTOR FOR NON COMPLIANCE TO BHEL STANDARD TERMS
B. FOR FOREIGN PURCHASES (IMPORTED)					
B.1	SUPPLY OF EQUIPMENT	PAYMENT TERMS.	AGAINST SIGHT DRAFT ON PRESENTATION OF DESPATCH DOCUMENTS VIZ INVOICE, AWB ETC TO OUR BANKERS (ALL BANK CHARGES INSIDE INDIA TO BHEL ACCOUNT AND OUTSIDE INDIA WILL BE TO THE SUPPLIER'S ACCOUNT)	SAME	NIL
				100% PAYMENT AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AT BHEL R&D BY WIRE TRANSFER. (DESPATCH DOCUMENTS WILL BE SENT TO BHEL R&D DIRECTLY ALONG WITH BANK DETAILS)	NIL
				LC PAYMENT	11% PER ANNUM INTEREST ON THE BASIC VALUE FOR ONE MONTH
				ADVANCE BY WIRE TRANSFER WITH BANK GUARANTEE	11% PER ANNUM INTEREST ON THE BASIC VALUE FOR DELIVERY PERIOD + 1 MONTH
B.2	SUPPLY OF EQUIPMENT INCLUDING E&C	PAYMENT TERMS (THE SUPPLIER MUST SUBMITT A PERFORMANCE BANK GUARANTEE (PBG) FOR 10% OF THE BASIC VALUE OF THE ORDER VALID FOR WARRANTY PERIOD.)	90% PAYMENT WILL BE MADE WITH IN 30 DAYS FROM THE DATE OF RECEIPT OF MATERIAL ON ACCEPTANCE AND BALANCE 10% WITH IN 30 DAYS OF COMPLETION OF E&C AND ON SUBMISSION OF PERFORMANCE BANK GUARANTEE FOR 10% OF BASIC VALUE	SAME	NIL
				LC PAYMENT FOR 90% OF THE ORDER VALUE + 10% AFTER E&C WITH IN 30 DAYS	11% PER ANNUM INTEREST ON 90% OF BASIC VALUE FOR ONE MONTH
				90% OF BASIC VALUE AS ADVANCE BY WIRE TRANSFER WITH BANK GUARANTEE AND BALANCE 10% AFTER E&C BY WIRE TRANSFER WITH IN 30 DAYS	11% PER ANNUM INTEREST ON 90% OF THE BASIC VALUE FOR DELIVERY PERIOD + 1 MONTH
				x% OF TOTAL VALUE AS ADVANCE PAYMENT WITH BANK GUARANTEE AND BALANCE (I.E. 90-X)%AFTER RECEIPT OF MATL BY WIRE TRANSFER AND 10% AFTER COMPLETION OF E&C	11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD+ 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT OF 90% OF ORDER VALUE (I.E. 90-X%)
C. PERFORMANCE BANK GUARANTEE, PBG ( COMMON FOR INDIGENOUS AND IMPORTS)					
C.1		PERFORMANCE BANK GUARANTEE	PBG FOR 10% OF THE BASIC PO VALUE SHALL BE FURNISHED IN BHEL PRESCRIBED FORMAT.	IF NOT AGREED	10% OF THE BASIC MATERIAL COST
D. PENALTY (COMMON FOR INDEGENOUS & IMPORTS)					
D.1	LD CLAUSE	IN THE EVENT OF DELAY IN AGREED CONTRACTUAL DELIVERY, PENALTY OF 0.5% ( HALF PERCENT) PER WEEK BUT LIMITED TO A MAX OF 10% VALUE OF UNDELIVERED PORTION OF BASIC MATERIAL COST WILL BE APPLICABLE	AGREED	NIL	NIL
			IF NOT AGREED		10% OF THE BASIC MATL COST
			IF AGREED FOR 5% OTHER THAN THE ABOVE		5% OF THE BASIC MATERIAL COST
					10% MINUS THE AGREED MAX PERCENTAGE OF THE BASIC MATERIAL COST WILL BE LOADED.



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

**Suppliers' compliance statement to basic conditions of enquiry**  
 (to be submitted along with Technical & Commercial bid)

**Enquiry date::**

**Enquiry number::**

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

	<b>BHEL R&amp; D's terms &amp; Conditions</b>	<b>Supplier's compliance</b> (indicate Yes/No, if 'No', state terms desired)
1) Validity of offer	Unless specifically mentioned in the enquiry, 90 days from the tender opening date	
2) Delivery requirements	Free delivery at our stores or FOR destination (or as indicated in the enquiry)	F.O.R Delivery: within _____ weeks from PO date
3a) Warranty	Unless specifically mentioned in the enquiry, all supplied items to be provided with warranty for one year (or more, if provided by the OEM) from the date of acceptance/commissioning. In case of equipment involving erection and commissioning, warranty shall be for 18 months from the date of despatch or 12 months from the date of commissioning, whichever is earlier	
3b) Manufacturer's Test report	Manufacturer's Test Report / Manufacturer's Test Certificate to be provided with Goods	
4) Terms of payment	Unless specifically mentioned, 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 EFT/RTGS with bank charges, if any, to supplier's account.	
5) Taxes & Duties	Unless specifically mentioned in the enquiry, we do not provide 'C' form. Supplier to specify rates of taxes/ duties element wise on the price quoted and related percentages. Please mention "NIL" if exempted and N.A if not applicable.	ED+ Cess : % Extra/ inclusive/ Nil/ NA VAT/ CST: : % Extra/ inclusive/ Nil/ NA Service Tax: : % Extra/ inclusive/ Nil/ NA
6) Penalty for late delivery	0.5% per week beyond the delivery date 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 Terms & 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)**

## AUTHORISATION LETTER FOR E-PAYMENT/ NEFT / RTGS

(PLEASE FILL UP THE FORM COMPLETELY IN CAPITAL LETTERS ON YOUR COMPANY LETTERHEAD ONLY)

Type of Request (Tick one)	NEW	CHANGE
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BHEL Vendor Code (to be filled by BHEL)	
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1	Company Name	
2	Address	
3	City with PIN Code	
4	State	
5	PAN Number	
6	Name of Contact Person	
7	Phone no. with STD Code	
8	Fax No. with STD Code	
9	Email ID	
10	Website (URL)	

### BANK DETAILS FOR EFT / RTGS

1	Bank Name	
2	Branch	
3	Branch Code	
4	Branch Address	
5	Branch Phone No.	
6	Account No.	
7	Account Type: SB/ Current/ other (Specify)	
8	MICR Code	
9	IFSC Code	

I, as an authorized representative / owner of the above named company, hereby state as under:

1. Enclosed here with a cancelled cheque in support of our company's bank details.
2. Authorize BHEL R&D Hyderabad, to electronically make payments to the designated bank account with bank charges, if any, to our account.
3. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
4. I hereby certify that the particulars given above are true, complete and correct.
5. This authority remains in full force until BHEL receives and acknowledge written notification requesting change or cancellation.

Date:

Authorised Signatory  
Designation :

COMPANY SEAL



RD:MPX:F-13

## BHARAT HEAVY ELECTRICALS LTD.

Corp. R&D DIVISION

VIKAS NAGAR,

HYDERABAD- 500 093 (INDIA)

Ph: 040 – 23772704, Fax: 040 – 23770698, email: mpx@bhelrnd.co.in

### VENDOR REGISTRATION FORM

(Indigenous supplier)

[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 Name and address of the vendor:

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Phone Nos.:

Fax No.:

Email: 1.

2.

##### 1.2 Local representative name & address in Hyderabad/ Secunderabad:

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Phone Nos.:

Fax No.:

Email:

Contact person:

Mobile No.:

#### 2.0. TYPE OF ORGANIZATION:

PROPRIETORSHIP	COMPANY	SISTER CONCERN ( mention vendor registration number of main organization)	
PARTNERSHIP	CORPORATION	Small Scale Industry	ANY OTHER (Please specify)

In case of SSI unit, copy of registration to be enclosed.

**3.0 ANNUAL TURN OVER:**

#	Year	Turn-Over, Rs.
1	Current Year(budgeted)	
2	Previous year ( 200 - 0 )	
3	Prior Year ( 200 - 0 )	

**4.0 NAME AND ADDRESS OF THE BANKER:**

- 4.1 Bank Name  
 4.2 Branch name  
 4.3 Account number  
 4.4 Account Type  
 4.5 MICR Code:  
 4.6 IFSC Code(RTGS/NEFT):  
 4.7 Bank Phone number(s),  
 Blank cheque, duly cancelled, to be enclosed.

Please note that all payments shall be made through Electronic clearance services to your above account against the orders executed, if any.

**5.0 REGISTRATION PARTICULARS** ( relevant copies to be enclosed)

- 5.1 IT Permanent Account No.(PAN):  
 5.2 State sales tax/VAT Registration No.:  
 5.3 Central Sales Tax Registration No.  
 5.4 ED Registration No.  
 5.5 Service Tax Registration No.:  
 5.6 PF Account No.:  
 5.7 Labour Licence No.:  
 5.8 ESI Account No.:

**6.0 CONTACT PERSON:** S/Sri

Designation:::

Phone/ Mobile No. :

**7.0 TOTAL NUMBER OF EMPLOYEES:**

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

**8.0 LIST OF PRODUCTS/ SERVICES OFFERED**

#	Products/ Services	Capacity
1		
2		
3		
4		
5		
6		
7		

## 9.0 REFERENCE LIST :

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

#	Customer	Volume / Year
1		
2		
3		
4		
5		
6		
7		

## 10.0 INFRASTRUCTURE / FACILITIES:

#	Facility (with specifications)	Age/ Year procured
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

## 11.0 REGISTRATION WITH OTHER BHEL UNIT/UNITS:

#	Unit	Registration No.	Year
1			
2			
3			
4			

## 12.0 ANY OTHER INFORMATION :

### DECLARATION:

The information furnished above is true and authentic.

**(CEO / PROPRIETOR)**

**SEAL:**

**DATE:**

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Note:

1. Registered bidders, having BHEL (R&D) registration no. or have submitted this format for registration, need not furnish this information again.
2. The competent authority reserves the right to accept or reject the registration.
3. Vendors approved for registration will be informed by mail / email, as convenient. A separate communication will be sent in case of non-registration also, citing reasons thereof.
4. BHEL reserves the right to take penal action as deemed fit if any of the information provided by the vendor(s) is found to be incorrect.
5. AGM, Head (MM) may be contacted for clarification/ additional information on registration.

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### Instructions

1. Fill all items. Please mention "N.A." for items/ clauses not applicable.
2. Use A4 sheets for this document and the enclosures. Use of additional sheets is permitted if space provided is not adequate.
3. Attach copies of latest documents in respect of items 5.0 (Registration no.s)
4. Photographs of registered office and the chief executive/proprietor shall be furnished.





RD:MPX-F-18

## BHARAT HEAVY ELECTRICALS LIMITED

CORPORATE R&D Division

Vikasnagar, Hyderabad, Andhra Pradesh, India – 500093

**IMPORTED**

### Suppliers' compliance statement to basic conditions of enquiry

(to be submitted along with Technical & Commercial bid)

**Enquiry number:**

**Enquiry dt:**

**(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)
1. Validity of offer	90 days from the tender opening date ( or as per enquiry)	
2. Delivery requirements	FCA – Nearest International Airport (or as indicated in the enquiry)	F.C.A International Airport. Delivery: within __ weeks from PO date
3a) Warranty	Unless specifically mentioned in the enquiry, all supplied items to be provided with warranty for one year (or more, if provided by the OEM) from the date of acceptance/ commissioning. In case of equipment involving erection and commissioning, warranty shall be for 18 months from the date of dispatch or 12 months from the date of commissioning, whichever is earlier	
3b) Manufacturer's Test Report	Manufacturer's Test Report / Manufacturer's Test Certificate to be provided with Goods	
4. Terms of payment	Wire Transfer within 30 days of receipt of Material. All bank charges inside India will be to BHEL R&D account and outside India will be to the supplier's account.	
5. Agency commission	Pl specify Indian agency commission charges, if any, in percentage of quotation. The same shall be paid to the agency in Indian Currency only.	
6. Erection/Commission	As per enquiry	
7. Documentation	As per enquiry	
8. Insurance	BHEL will arrange Insurance based on intimation to our Insurance agency. Address of the agency will be mentioned in the Purchase Order.	
9. Penalty for late delivery	0.5% per week beyond the delivery date 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)**



RD:DP:MPX:F-14

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

1.6 CONTACT PERSON(S)  
FOR PRODUCT OFFERED  
NAME(S)  
OFFICIAL CPACITY  
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 REGISTRTION  
(Attach brouchers and catalogues)

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 AUTHORIZATION LETTER

**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 SUPPIER (Authorized signatory)

NAME

DESIGNATION

DATE

.....OFFICIAL SEAL

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Note: 1. BHEL Reserves the right to take penal action as deemed fit if any of the information provided by the vendor is found to be incorrect.  
2. Please attach separate sheets, if space found is inadequate



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

Ph: 040 - 23778474, Fax: 040 - 23770698, email: mpx@bheirmd.co.in

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### **GUIDE LINES REGARDING DEALINGS WITH INDIAN AGENTS OF FOREIGN SUPPLIERS**

- i. BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines - which require mandatory submission of an Agency Agreement.
  - ii. It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.
  - iii. The Agency Agreement should specify the precise relationship between the foreign OEM / foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent/ associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier/ Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.
  - iv. Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- V) Whenever Indian agents are representing on behalf of their principals the relevant authorisation letter and agreement copy to be enclosed along with Technical bid to consider the offer