

**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: 291101431 Enq Date: 06-JUL-11 Due Date: 20-AUG-11 Delivery By:

Pin -

Email :

Attn. .

 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

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
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1	THE VFD SYSTEM SHOULD HAVE IGBT BASED ACTIVE FRONT END CONVERTER FOLLOWED BY THREE PHASE IGBT BASED INVERTER AND SINUSOIDAL FILTER AS PER THE SPECIFICATION SHEET. NOTE: OFFER SHOULD INCLUDE FOLLOWING OPTIONS a) TECHNICAL SUPPORT FOR ONE YEAR b) AMC FOR ONE YEAR ALONG WITH UPGRADES AND TECHNICAL SUPPORT AFTER WARRANTY PERIOD c) SINGLE USER NETWORK LICENSE IMPORTANT NOTE : YOUR OFFER WILL BE SUBJECT TO FOLLOWING TERMS AND CONDITIONS. a) OFFER VALIDITY : FOR 90 DAYS FROM ENQUIRY DUE DATE. b) PRICE BASIS : FOR BHEL R&D, HYDERABAD FOR INDIGENOUS OFFERS. FCA NEAREST INTERNATIONAL AIRPORT FOR FOREIGN OFFERS. c) PAYMENT TERMS : 100% SUPPLY VALUE ALONG WITH TAXES BY EFT/RTGS WITHIN 30 DAYS OF RECEIPT AND ACCEPTANCE OF CONSIGNMENT AT BHEL R&D STORES, HYDERABAD FOR INDIGENOUS OFFERS. 100% FCA VALUE BY IRREVOCABLE LC FOR FOREIGN OFFERS. d) PENALTY FOR DELAYED DELIVERY SHALL BE APPLICABLE @ 0.5% PER WEEK OR A PART THERE OF SUBJECT TO A MAXIMUM OF 10% OF ORDER VALUE. e) EXCISE DUTY SHALL BE EXEMPTED COMPLETELY BASED ON ED EXEMPTION CERTIFICATE ISSUED BY BHEL R&D FOR INDIGENOUS OFFERS. f) PLEASE INDICATE SEPARATELY APPLICABLE CST/VAT/SERVICE TAX RATES, ITEM WISE FOR INDIGENOUS OFFERS. PLEASE NOTE C FORM SHALL NOT BE ISSUED. g) PROVIDE NAME OF CONTACT PERSON, MOBILE NO, EMAIL ID, PHONE/FAX NO IN YOUR OFFER. h) REVERSE AUCTION: BHEL RESERVES THE RIGHT TO PROCURE ABOVE ITEMS THROUGH REVERSE AUCTION AMONG QUALIFIED BIDDERS.	NO	1
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NOTE:

Please submit your offer in Two parts as per enclosed "General Terms and Conditions of enquiry, Loading Factors & Contract for the purchase of Goods/ Services" in separate sealed covers as detailed below:

1) FIRST COVER SHALL CONTAIN A) TECHNICAL & COMMERCIAL BID, B) COMPLIANCE STATEMENT, C) UN-PRICED PRICE BID, I.E. A COPY OF THE PRICE BID WITH THE PRICE(S) COLUMNS LEFT BLANK D) BIDS WITHOUT THESE ENCLOSURES SHALL NOT BE CONSIDERED.

2) WHEREVER VENDOR REGISTRATION FORM AND EFT DETAILS HAVE BEEN SUBMITTED EARLIER, THE SAME NEED NOT



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BE SUBMITTED AGAIN UNLESS THERE IS A CHANGE.

3) WHEREVER INDIAN AGENTS ARE REPRESENTING ON BEHALF OF THEIR PRINCIPLES, THE RELEVANT AUTHORISATION LETTER & AGREEMENT COPY TO BE ENCLOSED ALONG WITH TECHNICAL BID TO CONSIDER THE OFFER.

4) Second Cover containing Price bid. If the Price bid is found to be different from the un-Priced Price bid in any way, the offer will be rejected.

5) Unsigned offers are liable for rejection.

Note:

1) ALL OFFERS MUST INCLUDE NAME OF CONTACT PERSON, PHONE NO, FAX NO, EMAIL ID. UNSIGNED/INCOMPLETE OFFER(S) ARE LIABLE FOR REJECTION.

2) Taxes & Duties quoted 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.

3) Changes in Taxes and Duties because of the changes in Turnover etc. will be to the supplier's account.

4) In case any Taxes/duties exempted, a self declaration for the same may be attached to the offer.

5) BEING A RESEARCH INSTITUTION BHEL R&D CAN AVAIL CUSTOM DUTY EXEMPTION IN TERMS OF GOVT NOTIFICATION NO 24/2007 - CUSTOMS DATED 1.3.2007 AND 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."

6) GUARANTEE CERTIFICATE: REQUIRED

7) MANUFACTURER'S TEST CERTIFICATE : REQUIRED

8) ERECTION & COMMISSIONING : REQUIRED

9) ACCESSORIES : REQUIRED

10) SPECIAL TOOLS: REQUIRED.

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.

Yours faithfully

for

BHARAT HEAVY ELECTRICALS LTD

RAVINDER KUMAR C

Engineer

Email: crkumar@bhelrnd.co.in

SPECIFICATION OF 200 kW IGBT BASED DRIVE WITH AFE CONVERTER FOR THE SPEED CONTROL OF SYNCHRONOUS MOTOR.

- 1. Application:** To drive and speed control of Synchronous motor with vector control/VVVF control. (The single line diagram is shown in Fig 1). The supplied VFD System, synchronous motor and the loading system will be mounted on a skid. So, the drive should be as compact as possible.
- 2. VFD Topology:** The VFD unit should have IGBT based Active Front End Converter followed by three phase IGBT based inverter and sinusoidal filter. The supplier should include shaft encoder for closed loop speed control. Refer Fig 1 for the topology to be followed and for the scope of supply.
- 3. Quantity:** 1 Set - Complete IGBT based VFD System.
- 4. Input Power Supply:**
 - a. No of Phases:** 3-Phase
 - b. Voltage:** 415V +/- 10%
 - c. Frequency:** 50Hz +/- 3%
 - d. Power:** 200kW + Losses
- 5. Inverter Output:**
 - a. No of Phases:** 3-Phase
 - b. Voltage:** 415V +/- 2% @ 12.5 Hz
 - c. Frequency:** 12.5 Hz Nominal, Rated power (Variable from 0 to 50 Hz)
 - d. Power:** 200kW
 - e. Over Load:** 150% over load for 60 Sec
 - f. Current Harmonics:** Less than 5% at all operating frequency and load.
 - g.** Compatible with normal motors (non-inverter duty) without de-rating
 - h.** Output sinusoidal filter has to provide to reduce voltage reflection and stress on motor insulation.
- 6. Synchronous Motor Data**
 - a. No of Phases:** 3-Phase
 - b. Rated Voltage:** 415V +/- 2%
 - c. Rated Frequency:** 12.5 Hz Rated
 - d. Rated Power:** 200kW
 - e. No of Poles:** 6 pole machine
 - f. Rated Speed:** 250 R.P.M
 - g. Speed variation required:** (0-1000) R.P.M
- 7. Standard operating condition**
 - a. Site Ambient Temperature:** 45 °C
 - b. Storage Temperature:** 10-50 °C
 - c. Noise level of the system:** 85 dBA at a distance of 1 meter.
 - d. Humidity:** 90%

- e. **Altitude:** Sea Level
- f. **Site Location:** Vizag
- g. **Location of the System:** Indoor

8. Drive requirements:

- a. **Analog inputs:** 2 nos. User programmable.
- b. **Analog outputs:** 2 nos. User programmable
- c. **Digital input:** 4 nos.
- d. **Digital output:** 4 nos.
- e. **Local/Remote switch:** Selector switch to be provided for operator to select
Local - Operation from Drive Panel for Speed Control
Remote - Operation from DCS Panel
- f. **Emergency push button:** Lockable Push-Button to be provided.

9. Drive Features:

- a. Soft Start & Auto Restart.
- b. Auto Speed Search Facility (Catch on Fly) should be available for starting into rotating loads.
- c. Power loss ride through for minimum 1 sec time
- d. Settable minimum and maximum operating frequency
- e. Field adjustable Torque limits and acceleration & deceleration ramps.

10. Control and Monitoring with Local Control Unit (Display Unit & Keypad)

- a. Door mounted multi-line graphical based Keypad/Display
- b. Digital Monitoring of drive data in real time(data logging)
- c. Fault sequence display
- d. Drive has to be with an interactive and user-friendly door mounted digital operator interface with LCD display and keypad. Operator should be able to access the following from the Keypad:
 - Active Faults
 - Fault History
 - System Menu
 - Monitoring various parameter
 - Parameter Menu
- e. The operator interface should be used for drive programming, drive monitoring and drive trouble shooting. The operator interface must also be able to start and stop the drive, reset Drive faults and manually adjust the Drive's speed reference.
- f. The operator interface should have LED indicators for drive fault, drive run and forward direction of rotation.
- g. The digital operator interface should allow simple monitoring of inverter operating conditions including speed, current, voltage, torque, power etc.
- h. The operator interface should be removable and remote mountable.
- i. The operator interface should be able to display all real time operating variables and all drive programming parameters.
- j. The operator interface should be capable of displaying a specific user selected parameter on power-up. This power-up parameter would typically

be a parameter that is important to the operator such as motor speed or motor load.

- k. Necessary transducer has to be provided with (4-20) mA output for indicating motor speed and current in the DCS. Transducer should be capable of driving 500 ohms load.
- l. The drive should have built in monitoring of following parameters as minimum on its digital operator interface :
 - Output Voltage
 - DC Bus Voltage
 - Output Frequency
 - Output Current
 - Output Power
 - Motor Speed
 - Torque
- m. The Drive should store fault logs of minimum last 100 faults in memory.
- n. The interface details of VFD have to be incorporated as required for data communication with DCS system with serial interfaces with RS485 & RS 422 data links. Necessary hardware shall be included in the scope and the interface protocol shall be defined.

11. Auxiliary Supplies required for VFD System should be derived from input feeder.

12. Pre-charge: Pre-charging circuit has to be provided for pre-charging the DC link for each start-up operation

13. Indication to be provided on panel door

- a. Input power ON
- b. Output Power ON
- c. Drive Healthy
- d. Drive Ready
- e. Drive faulty
- f. Emergency stop activated

14. Drive Protections:

- Line input over-voltage and under-voltage
- Power module self-test during power-up initialization
- Power module dc link over-voltage and under-voltage
- Output over-current protection
- Power module over-temperature
- Loss of input phase voltage
- Drive output short circuit protection.
- Cooling system failure

15. Control Features

- DSP based controller
- Remote operation through operator panel
- Remote operation and data-logging through PC

- Sensor/Sensor-less vector control for precise regulation of torque and speed.
- Space vector or sinusoidal PWM switching Technique has to be used.
- Auto-restart: Provides automatic restart of the drive under certain circumstances. (Main and control supply outage)
- Power loss ride-through of 1sec.
- Minimum 97% drive efficiency at full load.
- Output frequency 0-50 Hz
- 0.5% speed regulation
- Four Quadrant operation (In regenerative braking mode, 50 % of the rated power has to be fed back to the source).

16. Drive panel construction

- Protection class:** IP42
- Panel:** Drive should be in single cubicle and as compact as possible.
- Cooling:** Air Cooled (Natural or Forced Air Cooled).
- Cable Entry:** Input and output cable entry should be from bottom of the panel.

17. Warranty:

- Supplier should give warrantee for a period of 1 year from the date of commissioning.
- The supplier has to provide the extended warrantee of 3 years from the date of completion of 1 year warrantee period.
- The Supplier should undertake AMC for the VFD system supplied, after the expiry of the extended warranty period either directly or through a service representative.

18. Delivery Period: The supplier should supply the VFD system within 15 weeks from the date of placing a purchase order.

19. Recommended Spares:

- Supplier should recommend the list of spares required for its continuous operation (spares will be used after the warrantee period) and it will be purchased at a later date. The supplier should be able to supply the listed spares at least for a minimum period of 5 years after expiry of two year warrantee for reliable operation of the drive.

20. Inspection, Training & Commissioning :

- Final Inspection:** BHEL representative will be present at manufacturer's works for witnessing of final testing.
- Commissioning:** Commissioning of the complete Drive System at BHEL-R&D works will be in the scope of supplier. Final Acceptance will be based on successful completion of the same.
- Training:** Training is required for two persons from BHEL for a minimum period of 3 days per person at manufacturer's works or BHEL R&D.

21. Testing:

- a. Test Protocol on complete VFD System should be submitted by supplier for approval before inspection. These documents should explicitly list out all final tests done on all equipment comprising the Drive System.
- b. Routine tests should be carried out on the VFD System as per relevant standards.

22. Information required along with offer:

- a. Dimensional Drawing of Drive Panels.
- b. Tentative Scheme of Drive System.
- c. Weight of the Drive System.
- d. Catalog of the drive offered

23. Offer should consists of the following

- a. Design, manufacture, testing and supply of 200 kW Drive meeting all the specification.
- b. Installation and Commissioning cost including service tax, if any.
- c. Two years warranty.
- d. Training cost, including service tax, if any has to quote separately.

24. Maintenance manuals/Documentation to be given after Order Placement:

- a. Erection, Commissioning and Maintenance manuals – 3 copies
- b. All drawings and schemes
- c. Test and guarantee certificates.
- d. Complete Bill of Material (item-wise) for the equipment supplied.
- e. List of recommended spare list.

25. Tools: Any special tools required for commissioning and troubleshooting should be provided.

26. Confirmations/Deviations (compliance) to Specification :

Point-wise confirmation to this to be given along with the technical offer. Deviations if any should be indicated separately. If there are no deviations to the specifications, supplier should mention the same explicitly. A reply from vendor stating that “Equipment will generally meet the specifications” will not be accepted by BHEL Corp R&D.

Clause-wise Confirmation of all Clauses Cl. (1 to 25) of Specification and Data Sheets to be furnished in the format below.

Cl. No	Page No	Confirmation / Deviation	If Deviation, Details	Remarks, if any
1	1			

DATA SHEET – VFD SYSTEM
(To be filled in by supplier and attached along with offer)

S. No	Description	Units	Specification required	Suppliers Details
1.0	Type of Drive		IGBT Based PWM Controlled. AFE Converter with inverter and filter Confirm	Yes/No
2.0	Manufacturer Name OEM/Authorised representative of OEM		If representative, authorization certificate from OEM attached	Yes/No
3.0	Type of motor		Synchronous motor	----
4.0	Rating of motor		200 KW, 415 V, 3Ph, 12.5Hz	----
5.0	Ambient Temperature	DegC	45 degC	----
6.0	Power Supply System			
	a) Input Supply to VFD System		415V, 3 Ph, 50 Hz	-----
	b) Variation in Voltage	V	+/- 10%	----
	c) Variation in Frequency	Hz	+/- 3%	----
7.0	VFD System to be offered			
	a) Rated Output Power at site ambient	kW	200 kW	
	b) Rated Output Voltage	V	415 V	
	c) VFD suitable for site ambient temperature		Confirm	Yes/No
	d) Dimensions		LxBxH (Metres)	
	e) Type of Cooling		Air Cooled	Yes/No
	f) Degree of Protection		IP42	Yes/No
	g) Power Loss Ride Through Time	Secs	1	
	h) Auto restart after power loss		Yes	Yes/No
	i) Soft Start		Yes	Yes/No
	j) Catch on Fly		Yes	Yes/No
8.0	Switching Frequency	Hz	> 2kHz	
9.0	VFD System Efficiency	%		
10.0	Harmonic Limitation		As per IEEE 519	
	1) Voltage Harmonics			
	a) Source side			
	b) Load side			
	2) Current Harmonics			

13.0	Reference List			Yes/No
14.0	Recommended Spares List submitted			Yes/No
15.0	Confirmation/Deviations Attached (compliance)			Yes/No
16.0	Annual Maintenance Contract quoted		Supplier to quote. Optional to BHEL.	Yes/No
17.0	Delivery Period		15 Weeks	
17.0	Information required with offer as per Specification		Documents and Confirmation required.	
18.0	Contact Details of Sales & Service Representative in India.			

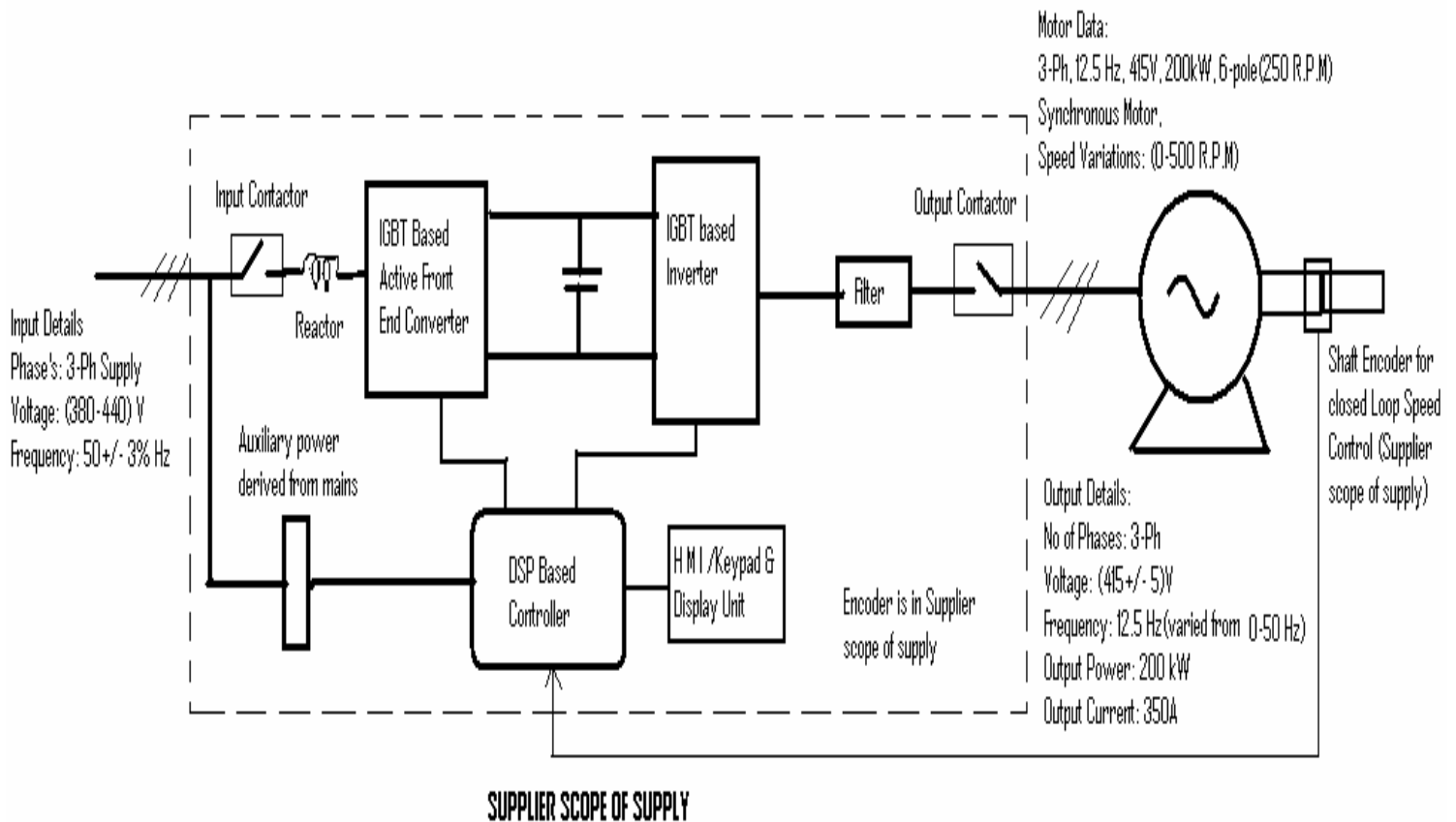


Fig 1: Single Line diagram of the VFD System with the input and output details.



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. 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.
3. 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
4. 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.
5. Late Tender: Tenders received after tender due date/ time (12:00 hrs) shall be treated as late tenders and will not be considered..
6. The Quotation should be free from overwriting and erasures. Corrections and additions, if any, must be attested. Incase 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.
7. Supplier should indicate in the quotation dimensions (Size), weight, rate etc., in the metric system unless the enquiry calls for different unit.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. Insurance: Insurance will be arranged by BHEL in case of Ex-Works as well as FCA / FOB basis supplies.
16. 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) though 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.
17. Pricebid evaluation: All offers shall be evaluated based on unit price, P&F, taxes/duties, freight charges if any, loading due to non-acceptance of our standard terms. All foreign offers shall be evaluated based on monthly exchange rates announced by Customs dept., Govt. of India as applicable at technical bid opening date. 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 terms, their offers will be evaluated as per Loading factors form sent along with enquiry.
18. 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.
19. Part/ Split Ordering: BHEL reserves right to Order part of the item/ quantity of the enquiry and/or split the order among qualified vendors.
20. 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.
21. 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.
22. 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 1/2% 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.
23. 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.
24. 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.
25. 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.
26. 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	NIL
				PAYMENT AGAINT PROFORMA INVOICE / DESPATCH DOCUMENT OR CASH ON DELIVERY (COD) / CASH AGAINST PROOF OF DESPATCH	11% PER ANNUM INTEREST ON THE TOTAL PO VALUE FOR ONE MONTH
				ADVANCE PAYMENT WITH BANK GUARANTEE	11% PER ANNUM INTEREST ON THE TOTAL VALUE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH
				PART ADVANCE PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE WITH IN 30 DAYS	11% PER ANNUM INTEREST ON ADVANCE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH
				PART ADVANCE PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE ON RECEIPT OF MATERIAL	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	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, WITH IN 30 DAYS FROM THE DATE OF RECEIPTAND 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	NIL
				100% PAYMENT WITH IN 30DAYS AFTER COMPLETION OF SUPPLIES AND ERECTION AND COMMISSIONING	NIL (PBG WILL NOT BE INSISTED FROM THE SUPPLIER)
				90% PAYMENT AGAINT PROFORMA INVOICE/ DESPATCH DOCUMENT OR CASH ON DELIVERY (COD) / CASH AGAINST DESPATCH AND BALANCE 10% WITH IN 30 DAYS OF E&C	11% PER ANNUM INTEREST ON 90% OF THE VALUE OF PO FOR ONE MONTH
				90% PAYMENT AGAINT PROFORMA / DESPATCH DOCUMENT OR CASH ON DESPATCH (COD) / CASH AGAINST DESPATCH AND BALANCE 10% AFTER COMPLETION OF E&C	11% PER ANNUM INTEREST ON TOTAL PO VALUE FOR ONE MONTH
				90% ADVANCE PAYMENT WITH BANK GUARANTEE AND BALANCE 10% WITH IN 30 DAYS OF E&C	11% PER ANNUM INTEREST ON 90% OF THE TOTAL VALUE FOR DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH) + 1 MONTH
				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	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
				PART ADVANCE (x%) PAYMENT WITH BANK GUARANTEE AND (90 - x) % PAYMENT ON RECEIPT OF MATERIAL AND 10% PAYMENT AFTER E&C	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
				PART ADVANCE (x%) PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE PAYMENT AFTER RECEIPT OF MATL	11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD+ 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT FOR ONE 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 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 SUBMISSIONOF 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
				IF NOT AGREED	10% OF THE BASIC MATL COST
				IF AGREED FOR 5%	5% OF THE BASIC MATERIAL COST
				OTHER THAN THE ABOVE	10% MINUS THE AGREED MAX PERCENTAGE OF THE BASIC MATERIAL COST WILL BE LOADED.



RD:MPX:F-17

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 number::

Enquiry date::

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

	BHEL R& D's terms & Conditions	Supplier's compliance (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 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 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)



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:

Phone Nos.:

Fax No.:

Email: 1.

2.

1.2 Local representative name & address in Hyderabad/ Secunderabad:

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:

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.

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.

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
----------------------------	-----	--------

BHEL Vendor Code (to be filled by BHEL)	
---	--

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-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 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	
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:

1.1NAME OF COMPANY

1.2DETAILS OF HEAD OFFICE:

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

1.3DETAILS OF FACTORY/WORKS:

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

1.4DETAILS 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

4.0FUTURE 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

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