

Bharat Heavy Electricals Ltd
Electronics Division
Mysore Road, Bangalore – 560 026

Tender Document for SUPPLY OF PV MODULES

RFQ REF: HBS0000446

Technical Bid Opening Date: 20th May, 2013

This Tender Document Contains:

General Terms and Conditions, Technical Specification, Integrity Pact, Unpriced Bid
Formats & Price Bid Formats

Note: Part – I: **To be submitted in a separate sealed cover**

Part – II: **To be submitted in a separate sealed cover.**

And Part-I & Part-II sealed covers should be put in outer envelope and super scribing the Name of work and Name & Address of the tenderer. Tender document along with EMD should be dropped in Tender drop box super scribed “**SC&PV-MM, Monday**” kept in reception area of BHEL – EDN, Bangalore.

Contact Person at BHEL: Manager (SC&PV-MM)

Ph: 080-26988945,

Mob: 09449869655

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: HBS0000446 RFQ DATE : 10.MAY.2013	Due Date 20.MAY.2013 Time: 13:00 HRS VENUE : NEW ENGG. BLDG
MMI:PU:RF:003			

	(for all correspondence) Purchase Executive : SRINIVAS H B Phone : 26998452 Fax : 00918026989217 E-mail: srinivasahb@bheledn.co.in
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Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no.and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PV0679038833 240 - Wp PV Module (mono) DRW PS439296 00	42,000	NO	42,000	15.OCT.2013

Total Number of Items - 1

Please note that the tender will be opened in the presence of the bidders or his authorised representatives (maximum two per organisation) who choose to be present with authorisation letters. Refer annexure for the terms and conditions.

Preference will be given to vendors who accepts our standard payment terms i.e.100% payment - 30 days after receipt of material at our works subject to acceptance.

Please specify Terms of delivery, Excise duty, sales tax, Ex-BHEL, Ex-works surcharge, Insurance,P&F, Freight and other taxes very clearly .

For evaluation,exchange rate(TT selling rate of SBI) as on scheduled date of tender opening (Part-I bid incase of two part bid) shall be considered.

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected.The list of banned firms is available on BHEL web site www.bhel.com

- i). This is only RFQ not an order.
- ii). In all correspondence quote RFQ No. & due date.
- iii). In Quotation BHEL material code / RFQ Sl. No. should be mentioned clearly.
- iv). Quotation Envelope / Fax not superscribed with RFQ No.and due date is liable for rejection.
- v). Quotation should remain valid for a minimum peiod of 90 days from due date.
- vi). In case of non-receipt of Quotation or regret letter for 3 consecutive RFQs you are liable to be removed from our vendors list.
- vii). All Prices should be written in words and numbers.
- viii). Excise Chapter Heading should be mentioned for all items where VAT is applicable .

For and On behalf of BHEL.

Bharat Heavy Electricals Ltd.,

(A Government of India undertaking)

Electronics Division

PB No.2606, Mysore Road, Bangalore-560026, India

Tel 080-26998495 / email: srinivasahb@bheledn.co.in

Tender document for supply of: **240-watts PV Modules (Mono Crystalline Silicon)**

RFQ Number : HBS0000446 Dated 10 .05.2013
Tender Qty : 42,000 Numbers
Tender Due Date and Time : **20th May 2013, 1.00 PM**
Place of opening of Tender : NEW ENGINEERING BUILDING - CONFERENCE HALL, II FLOOR

Scope: Manufacturing and Supply of 240-watts PV Modules (Mono) with BHEL Solar cells.

1. Two part Bid:

Tender shall be submitted in two parts:

Part I – Techno Commercial Bid without prices

Part II – Price bid

Tender (quotation) shall be submitted in a sealed envelope super scribed with **RFQ NUMBER** and **DUE DATE** on it and the same must reach our office on or before the due date by **13:00 hrs.** Quotation can also be dropped in the tender box placed in the Reception area with caption **“SC & PV” and Day of Tender Opening.** Late quotations shall be rejected.

Tender shall be addressed to **MANAGER/SC & PV - MM**, Electronics Division, Bharat Heavy Electricals Ltd., Mysore road, Bangalore 560026.

2. Delivery Period:

First Lot within 2 weeks of receipt of Solar cells from BHEL, subsequently at the rate of 2500 no's of PV Modules per week from the date of receipt of BHEL solar cells. This will be limited by the Solar cells to be supplied by BHEL from time to time.

3. Warranty period:

Product Warranty: For a period of 3 years from the date of supply against manufacturing defects.

Product Performance (power) Warranty: From the date of commissioning of the PV Modules, 90% output for first 10 years and 80% output for next 10 years.

4. Terms and conditions:

- All the Bidders shall comply with **Pre-qualification criteria. The Pre-qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met.**
- All the Bidders shall comply with **Technical Specification** PS-439-296 mentioned in this specific tender. **(Technical Specification is provided under ANNEXURE-2). Bids not qualifying as per BHEL Technical Specification shall not be considered.**
- Bidders are required to comply with the **General Terms and Conditions** as per **ANNEXURE-1.**

Pre-qualification criteria

Sl No.	Item	Remarks	Vendor Confirmation
1	Design Qualification and Type Approval as per IEC 61215: 2005 (Edition 2) & IEC 61730: 2004 (Part 1 & Part 2)	Valid IEC Test Certificate to be attached with the offer	Certificate Enclosed: Y/N
2	Vendor should have a minimum of 30 MW PV module automated in-house manufacturing facilities in Bangalore.	Production Capacity \geq 30 MW Manufacturing facilities located in Bangalore.	Y/N (Please state existing capacity) Y/N
3	Degree of automation in manufacturing facilities. a. Automated tabber-stringer and layup b. Automated laminator c. Automated framing	Automation in tabber-stringer, layup, lamination and framing a. Y/N b. Y/N c. Y/N	Y/N Manufacturing Line Make:
4	Vendor should have manufactured and supplied a minimum of 5 MWp/year of 240 or 270 Watts PV modules in the last three years	Qty: a. 2012-13 b. 2011-12 c. 2010-11 Customer's reference to be provided.	Y/N a. ----MW b. ----MW c. ----MW Enclosed: Y/N

NOTE:

1. Pre-qualification will be carried out based on the details furnished by the vendor / feedback from their customers / inspection of the company / product if required by BHEL and at its sole discretion.
2. The Pre-qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met.

Details to be furnished along with the technical offer

1. Valid IEC 61215: 2005 (Edition 2) & IEC 61730: 2004 (Part 1 & Part 2) Test Certificate to be attached with the offer
2. A clause wise deviation, if any, has to be brought out clearly. If there are no deviations, the vendor has to positively certify compliance to the specifications in Toto.
3. The complete technical information and catalogue shall be given.
4. Reference list of customers to be furnished.

ANNEXURE -1

GENERAL TERMS & CONDITIONS FOR SUPPLY

(TWO PART BID)

Bidders are required to read the general terms & conditions carefully and submit their quotation covering all the points. Any order resulting from this enquiry shall be governed by the general terms and conditions listed below.

I. Enquiry / Request for Quotation (RFQ):

- (a) Any Purchase Order resulting from this enquiry shall be governed by **these general terms and conditions listed below and special terms and conditions, if any, along with this enquiry** of Bharat Heavy Electricals Limited, Electronics Division, Bangalore-560026 (BHEL – EDN).
- (b) Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the quotation. Otherwise, it will be treated as that all terms and conditions of this enquiry are acceptable.
- (c) If counter terms and conditions are offered by supplier, BHEL EDN shall not be governed by such terms and conditions, unless it is agreed and incorporated in the Purchase Order of BHEL EDN.
- (d) Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of order, unless clarification is sought for by BHEL EDN and agreed upon in the Purchase Order of BHEL EDN.
- (e) BHEL EDN shall be at liberty to cancel the tender at any time, before ordering, without assigning any reason.

1. Quotation: Quotation shall be submitted in two parts:

(a) Techno-Commercial i.e., Un-priced Bid:

Techno-commercial bid shall be submitted with complete description of the item, specification compliances to the enquired specification and all the commercial terms & conditions indicated in the ANNEXURE – A. Any other enclosure, which the supplier wishes to submit like product catalogue, technical literature etc., may also be submitted in a sealed envelope super scribed clearly as **“TECHNO-COMMERCIAL BID” with RFQ No. and DUE DATE.** Un-priced copy of price bid (without price) as per ANNEXURE-B shall also be enclosed with the techno-commercial bid.

Compliance to Pre-qualification criteria shall also be enclosed with the Techno-commercial bid.

Confirmation to BHEL specifications shall be indicated by the vendor in the respective columns provided in the purchase specification wherever applicable. Deviations to the specification / item description, if any shall be brought out clearly indicating “DEVIATION TO BHEL SPECIFICATION” without fail as a part of technical offer.

Manufacturer’s name, their trade mark and brand, part number, alternate material to the one asked in enquiry, if any, should be mentioned in quotation and illustrative leaflets giving technical particulars etc. are to be attached to facilitate consideration and technical evaluation of the quotation.

The bidder shall sign an “INTEGRITY PACT” in the formats enclosed (total 8 sheets). Only those vendors / bidders who have entered into such an Integrity pact with BHEL would be competent to participate in the bidding. In other words, entering into this pact is a preliminary qualification.

The Name & Address of Independent External Monitor (IEM) is given below:

Mr. J.M. Lyngdoh, IAS (Retd.), Plot No 144-145, Pragati Resort, Proddator Village & PO Shankarpally Road, Ranga Reddy District, A.P.-500033

(b) Price Bid:

Price bid as per ANNEXURE-C should contain basic unit prices, discount if any, applicable taxes & duties, packing & forwarding charges (if applicable), in a sealed envelope super scribed clearly as **"PRICE BID" with RFQ No. and DUE DATE.**

It is preferred to indicate the rates in both figures and words. In such case, if there is difference / discrepancy between the rates in figures and words, the **least of the two** rates will be considered.

(c) Bid Submission: Both these sealed envelopes [(a) Techno-commercial i.e., un-priced Bid and (b) Price Bids] shall be kept in a **single sealed envelope** and super scribed clearly with **RFQ No. and DUE DATE.**

2. The above sealed envelope (Tender) shall reach our office on or before the due date by **13:00 hrs.** Quotations are to be dropped in the tender box marked **"SC &PV"** kept at BHEL-EDN's Reception area of our works. Quotations also can be dispatched by Couriers / Registered post / to the Purchase Executive.

BHEL EDN is not responsible for any delay in receipt of quotation sent by supplier through post.

Late Tenders i.e., Tenders received after due date will not be considered and stand **rejected.**

3. **The vendor shall purchase the required no. of 156-mm mono crystalline silicon solar cells from BHEL (No. of modules * 60 cells / module and taking module yield into account). BHEL shall sell 156-mm mono crystalline silicon solar cells to the vendor as per the above requirement at the rate of Rs. 100.00 per cell. VAT is applicable at the present rate of 5.5 %. The power output of the solar cells supplied by BHEL shall be greater than or equal to 4.3 watts. Module materials are under the scope of the vendor and shall be as per the Technical and Functional specification as per Annexure-2.**
4. The rate quoted against each item shall be in units stated in the enquiry (**price per PV module and not per watt**). Please use Annexure B format for quotation.
5. As far as possible, the quotations shall be free from corrections / overwriting. Corrections / overwriting, if any should be signed by authorized person with the company seal. Any typographical errors, totaling mistakes, currency mistakes, multiplication mistakes, summary mistakes observed in your priced bids, BHEL may consider whichever is beneficial to BHEL for evaluation.
6. Quotations are to be duly signed. Unsigned bids / offers are liable for rejection.
7. Tenders will be opened at **13:30 hrs.** All the tenderers or their authorized representatives (with authorization letter from their principals) may witness opening of techno-commercial bid on the due date.
8. After evaluation of Techno-Commercial Bids, Price Bids of only those which are technically & commercially accepted will be opened on a subsequent date, which will be intimated to the concerned in advance for witnessing of price bid opening. BHEL may go for **Reverse Auction** to arrive at L1 at any point of time with due information to vendors.
9. The quantity in each item to be purchased may vary from quantity enquired according to the actual requirement at the time of placing the purchase order. Quantity discount, if any, should be mentioned in the quotation.
10. Withdrawal from the quotation after submission till order is placed will entail cancellation of the enquiry. Such supplier is liable for de-listing for future enquiries at the sole discretion of BHEL EDN.

11. **BIDDERS** (for indigenous purchase) shall indicate clearly Excise duty, Education Cess, Sales Tax/VAT, Octroi, Exit/Entry tax, Service Tax as applicable for the quoted items. In the absence of clarity of these, any claim at a later date will not be entertained. Any changes in Taxes and duties after award of the contract will not be considered except such are those, which are imposed by Govt., notification within the contractual delivery. Seeking price amendments for change in Excise duty due to crossing of turnover limits will not be considered under any circumstances.

12. **PURCHASE ORDER:** Purchase order will be placed on the lowest bidder (L1) only among the technically & commercially accepted quotations. Lowest quotation (L1) is determined on the basis of the **total cost to BHEL**. (Refer L1 Criteria, Sl. 8 of Annexure A)

BHEL reserve the right to Split the order quantity in the ratio of 60:40 to L1 and L2 vendors respectively, in case L2 accept to supply as per L1 negotiated price. In case, L2 does not accept to supply as per L1 negotiated price, full quantity shall be ordered on L1.

COST TO COMPANY:

Total cost to BHEL = Total basic value including Packing & forwarding charges + Excise duty + Education Cess + Sales Tax/VAT + Octroi + Exit/Entry tax + Service Tax (if applicable).

13. **FIRM PRICE:** Rates quoted should be firm and no enhancement in the rates and changes in the techno-commercial terms will be allowed once the quotation is accepted and order is placed.

TERMS OF PAYMENT:

100 % with 30 days credit after receipt and acceptance of item at BHEL.

14. **ADVANCE PAYMENT:** Quotations with “Advance payment” or “Inland credit” will be rejected.

15. **WARRANTY:** Goods dispatched shall have warranty period of 36 months from the date of supply.

TERMS OF DELIVERY:

Ex-Works (PV Modules shall be well packed so as to avoid transit & weather damage)

DELIVERY REQUIREMENT: First Lot within 2 weeks of receipt of Solar cells from BHEL, subsequently at the rate of 2500 no's of PV Modules per week from the date of receipt of BHEL solar cells.

17. **VALIDITY:** Quotation should remain valid for a minimum period of 60 days from the date of technical bid opening. Quotation with validity period less than 60 days is liable for rejection.

18. BHEL EDN reserves the right to adopt **Reverse Auction** at any point of time after technical evaluation, at its discretion. Bids with non-acceptance of reverse auction will be liable for rejection. BHEL may also open the price bids at its discretion.

POST-ORDER REQUISITES:

a) Pre-shipment inspection at vendor's works will be carried out by BHEL / BHEL's customer. Required assistance will have to be provided by the vendor at the time of pre-shipment inspection.

b) Test certificates, Calibration certificates and warranty certificates as stipulated at the time of ordering shall be furnished.

- c) Items shall be dispatched by Road-worthy packing. Any damage and later rejection, due to poor / improper packing shall be to supplier's account.
 - d) Any damage/rejection should be made good or replaced immediately without any extra cost to BHEL.
20. Any dispute arising out of this, shall be referred to the sole arbitration of Head of Dept. Materials Management of group concerned, BHEL EDN or any other officer nominated by him and his award shall be final and binding on the parties. The venue of the arbitration in all cases shall be Bangalore.
21. Any legal suit in respect of this enquiry lies in the court of Jurisdiction of Bangalore (India) only.
22. Item shall comply with the standard requirements of ISO 14001 & OHSAS 18001.
23. **Limitation of liability:** Limitation of liability by the vendor is limited to the value of the order.

TECHNICAL BID (TO BE ENCLOSED WITH TECHNO-COMMERCIAL BID)
(FOR INDIGENOUS PURCHASE ORDERS)

Sl. No.	Particulars	Bidder's confirmation
1	Vendor shall purchase the required no. of 156-mm mono crystalline silicon solar cells from BHEL (No. of modules * 60 cells / module and taking module yield into account) at the rate of Rs. 100.00 per cell.	Acceptable / Not acceptable
2	Price basis: Firm i.e., from the date of PO to completion of supply [Price Variation Clause (PVC) not acceptable]	Acceptable / Not acceptable
3	Excise duty: If applicable indicate %.	Applicable / Not applicable ED: _____%
4	Sale tax If applicable indicate %	Applicable / Not applicable (a) VAT _____% (b) CST _____% against form C
5	Payment terms: 100% with 30 days credit after receipt and acceptance of item at BHEL/BHEL specified site.	Acceptable / Not acceptable
6	Terms of delivery: Ex-Works (PV Modules shall be well packed conditions so as to avoid transit & weather damage)	Acceptable / Not acceptable
7	Warranty: 36 months from the date of supply	Acceptable / Not acceptable
8	L1 Criteria L1 vendor shall be arrived based on Total cost to BHEL (Item cost+ Packing & Forwarding+ Taxes/Duties etc.)	Acceptable / Not acceptable
9	Order Splitting: BHEL reserve the right to Split the order quantity in the ratio of 60:40 to L1 and L2 vendors respectively, in case L2 accept to supply as per L1 negotiated price. In case, L2 does not accept to supply as per L1 negotiated price, full quantity shall be ordered on L1.	Acceptable / Not acceptable
10	Delivery period: Delivery of modules shall be: First Lot within 2 weeks of receipt of Solar cells from BHEL, subsequently at the rate of 2500 no's of PV Modules per week from the date of receipt of BHEL solar cells.	Acceptable / Not acceptable
11	Validity: Quotation should remain valid for a period of 60 days from the tender due date	Acceptable / Not acceptable
12	Acceptance of Reverse Auction	Acceptable / Not acceptable

Signature of tenderer / with stamp

TECHNICAL SPECIFICATION: PS-439-296**240-WATT PV MODULE (MONO CELLS)****Technical Specification:**

Sl No.	Item	Remarks	Vendor Confirmation (Y/N)
1	PV Module Configuration	Single glass laminated type with 60 numbers of 156-mm Mono Crystalline silicon solar cells (purchased from BHEL) in 10*6 series configuration	Y/N
2	Glass Size	91 % light transmission, one-side textured, 1650*990*3.2 mm	Y/N
3	EVA & Back Sheet	Fast cure EVA and back sheet to protect against extreme weather conditions shall be used.	Y/N
4	Overall Module Size (Typ.)	1656 (±3) * 996 (±2) * 50 (±1) mm	Y/N
5	Weight	20 kg. (Typ.)	Y/N
6	PV Module Frame Material	Anodized Aluminum (Corner block type)	Y/N
7	Junction Box with cables and quick connectors	IP65 grade, TUV certified as per Sl. No.4 of Functional Specification	Y/N
8	RFID Tag	RFID Tags containing the I-V data of the PV Module shall be affixed on the backside of the module.	Y/N
9	Grouping of PV Modules	PV Modules shall be grouped in the following power output bands and color sticker (20mm * 10 mm approx.) to be affixed on the module frames/back sheet accordingly. Power Output Color Sticker 240- 244.9 watts White 245 - 249.9 watts Blue >= 250 watts Orange	Y/N
10	Packing	Modules (16 in 1) to be packed in 7 ply carton box as per BHEL Drawing No: 36790200324. Modules of the same group (color band) to be packed in a box. Same color code sticker shall be affixed on the carton box.	Y/N
10	Typical electrical characteristics:		Y/N
10.1	Open Circuit Voltage (Voc)	36.0 V	
10.2	Short Circuit Current (Isc)	8.5 A	
10.3	Voltages at Peak Power Point (Vmp)	29 V	
10.4	Current at Peak Power Point (Imp)	8.28 A	
10.5	Peak Power Output (Pmax.)	240 Wp (minimum)	

Note:

Electrical specifications mentioned above should be at standard test conditions of 100 mw/sq. cm solar insolation (AM 1.5) and at 25 deg. C cell temperatures.

Functional Specification:

Sl No.	Item	Remarks	Vendor Confirmation(Y/N)
1	Power Output	1) Test Report: 240 Wp (minimum). Shall be inspected/ verified at Vendor's works under STC by BHEL. 2) Reference modules should be calibrated from test labs such as NREL, ECN, Fraunhofer, MNRE, TUV, UL etc.	Accept: Y/N Accept: Y/N
2	Product warranty	3 Years from the date of supply against manufacturing defects	Accept: Y/N
3	Product performance (power) warranty	From the date of commissioning of the PV Modules: 90% output for first 10 years. 80% output for next 10 years.	Accept: Y/N
4	IP65 grade junction box with 3-Schottky diode (15 A, 40 V) , solar cables (+ve and -ve) with quick-connects (MC4 compatible) and cable glands	TUV-certified Junction Box which is mounted on the back sheet and adequately sealed for protection against possible moisture ingress Certificate as below: Junction Box: DIN V VDE V 0126-5/05.08 Connectors: EN 50521: 2008 Cables: 2PFG 1169/08.07 Protection: IP 65, Class II Rated Voltage: 1000 V DC	Accept: Y/N Enclose Certificates
5	Back Sheet	TUV-certified for partial discharge test for System voltage \geq 1000 V DC	Accept: Y/N Enclose Certificate
6	BHEL Logo, Sl. No. Sticker and Rating Sticker	BHEL logo, module type and serial number stickers shall be laminated inside the module Module Rating / Safety warning sticker with BHEL logo shall be affixed externally. BHEL shall supply soft copy of above.	Accept: Y/N
7	RFID Tags	RFID Tags containing the I-V data of the PV Module shall be affixed on the backside of the module.	Accept: Y/N
8	Module overall assembly drawing	As per BHEL Drawing No: 36790200351	Accept: Y/N
9	Incoming material checks, in-process checks and routine production tests	As per Annexure 3	Accept: Y/N
10	Insulation, Robustness of Terminations, Mechanical Load test as per IEC 61215: 2005	As per Annexure 3	Accept: Y/N

Note:

1. Any deviation from the above specifications shall be clearly brought out by the supplier.
2. Documents required are to be attached along with the offer.

UN-PRICED BID FORMAT (TO BE ENCLOSED WITH TECHNICAL BID)

Sl. No.	Item	Quantity
1.	240-W PV Module (Mono Silicon solar cells) with packing as per BHEL Specification Terms of Delivery : Ex-Supplier works	42,000 Nos.
2.	Excise Duty @ 12.36 %	
3.	VAT %	
4.	Transportation Charges to BHEL, EDN, Mysore Road, Bangalore	BHEL SCOPE
5.	Total cost for 42,000 nos. of PV modules	

Please indicate taxes applicable as on date:

L1 Criteria: L1 vendor shall be arrived based on Total cost to BHEL as Item cost+ Packing and Forwarding + Taxes & Duties.

Insurance shall be arranged by BHEL.

PRICE BID FORMAT (TO BE ENCLOSED WITH COMMERCIAL BID)

Sl. No.	Item	Quantity	Unit Rate (Rs.)
1.	240-W PV Module (Mono Silicon solar cells) with packing as per BHEL Specification Terms of Delivery : Ex-Supplier works	42,000 Nos.	
2.	Excise Duty @ 12.36 %		
3.	VAT %		
4.	Transportation Charges to BHEL, EDN, Mysore Road, Bangalore	BHEL SCOPE	
5.	Total cost for 42,000 nos. of PV modules		

Please indicate taxes applicable as on date:

L1 Criteria: L1 vendor shall be arrived based on Total cost to BHEL as Item cost+ Packing and Forwarding + Taxes & Duties.

Insurance shall be arranged by BHEL.

PERFORMANCE BANK GUARANTEE
(FOR INDIGENOUS PURCHASE ORDERS)

THIS DEED OF GUARANTEE made and executed on the _____ day of _____ (year), by the _____ (Bank), registered under the Companies Act 1956/Nationalised Bank constituted under the Banking Companies (acquisition and transfer of undertakings) Act constituted under the State Bank of India Act / Subsidiary Banks Act, having its registered / head office at

_____ represented herein by its Branch Manager / authorised representative Sri. _____ & Sri. _____ (Hereinafter called 'guarantor ' which term shall mean and include its successors and assigns)

IN FAVOUR OF BHARAT HEAVY ELECTRICALS LIMITED

_____ (Buyer's Name), a company registered under the companies Act, 1956 having its registered office at BHEL House at Siri Fort , New Delhi-100 049 and its Electronics Division at Mysore road, Bangalore-26 (hereinafter referred to as the 'Company' Which term shall include its successors and assigns):

Whereas the company has placed an order on _____ (State the name of the company / firm and its address) (hereinafter referred to as the 'Supplier' which term shall mean and include its liquidators, successors and assign) for the supply of system under order / Contract No _____ Dt _____.

AND WHEREAS the supplier has agreed to supply the materials and carryout the works as detailed and in accordance with the terms set out in the said order/contract.

AND WHEREAS the company is not required to pay to the supplier a sum of Rupees _____ being the 10% of the value of the goods supplied / Works performed / Services rendered under the said order / contract between the supplier and the company, till the company is satisfied with the mechanical Warranties and the performance standards stipulated in the said order / contract between the company and the supplier has been duly fulfilled, except against a Bank Guarantee for the said sum of Rs _____ in favour of the company by reputed Bank, in which case the company has agreed to make payment to the supplier of the said sum of Rupees _____ being (...%) of the value of the goods supplied / Works performed / Services rendered under the agreement between the supplier and the company and the Guarantor has at the request of the supplier, agreed to furnish this Guarantee subject to the terms and conditions stated below:

NOW THIS DEED WITNESSES THAT IN pursuance of the above said agreement, the guarantor hereby agrees and covenants With company is as follows :-

- 1) That during the period this contract of Guarantee remains effectual, the guarantor shall be liable in respect of the amount due and owing to the company in respect of the payments to the extent of Rs _____ (in words)

_____ against any loss or damage caused to or suffered by the company by reasons of any breach of the terms of the said order / contract / Agreement by the supplier.

- 2) The Guarantor hereby undertakes to pay the amounts due and payable under this guarantee without any demur, merely on demand from the company intimating that the amount claimed is due by way of loss or damage caused to or suffered or would be caused or suffered by the supplier of any terms contained in the said order / contract. Any such demand made on the guarantor shall be conclusive as regards the amount due and payable by the Guarantor irrespective of the fact whether the Contractor / supplier admits or denies.
- 3) The Guarantor further agrees that the agreement herein contained shall remain in force and effect till all the supplies to be made / Works to be performed / Services to be rendered under the said order / contract / agreement are completed to the entire satisfaction of the company or till company certifies that the terms and conditions of the said order / contract / agreement have been fully and properly carried out by the said supplier and accordingly discharges the Guarantee. Unless a demand or claim under this guarantee is made on the guarantor in writing on or before the expiry of claim period indicated in clause 6 below , the guarantor shall be discharged from all the liability under this guarantee thereafter.
- 4) The guarantor further agrees with the company that the company shall have the fullest liberty without the consent of the guarantor and without effecting in any manner the obligations of the guarantor hereunder to vary any of the terms of the said order / contract / agreement or extend the time of performance by the said supplier from time to time or refrain from exercising the power exercisable by the company against the said supplier or to forebear or omit to enforce any of the terms and conditions relating to the said order / contract / agreement, and the guarantor shall not be relieved of its liability in whole or in part , by reason of any act, commission or forbearance on the part of the company or by reason of any such variation, or extension being granted to the said supplier or by reason of any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving the guarantor.
- 5) The guarantor undertakes not to revoke this guarantee during its currency except with the previous consent of the company in writing.
- 6) Notwithstanding anything herein above contained, the liability of the guarantor under these presents is restricted to Rs_____. The guarantee shall be in force till its expiry on _____ unless a demand is made on the guarantor within SIX months from the date of expiry, all the liability of the guarantor under this guarantee shall stand fully discharged. The decision of the claimant in regard to breach of contract is final and binding on the Bank.

IN WITNESS whereof, the guarantor, acting through it authorised representative has executed this deed of Guarantee on the day, month and year first above written.

(Seal of the Bank to be affixed)

WITNESS

- 1.
- 2.

Note:

- (1) To be executed in INR 100 Non-Judicial stamp paper by any authorized Indian Bank.
- (2) To be submitted directly by banker to concerned executive in purchase dept., Please give BHEL address to banker.
- (3) Do not enclose with Bank document.
- (4) Any Modification & omissions to this are not permitted

BHEL MEMBER BANKS (CONSORTIUM BANKS)

PBG SHALL BE ISSUED FROM THE FOLLOWING BANKS OR THEIR BRANCH OFFICES ONLY

1	STATE BANK OF INDIA
2	PUNJAB NATIONAL BANK
3	HDFC BANK
4	SYNDICATE BANK
5	CANARA BANK
6	INDIAN BANK
7	ST. BANK OF HYDERABAD
8	ICICI BANK
9	STANDARD CHARTERED BANK
10	UCO BANK
11	KOTAK MAHINDRA
12	ORIENTAL BANK OF COMMERCE
13	STATE BANK OF TRAVANCORE
14	CENTRAL BANK
15	IDBI BANK
16	FEDERAL BANK
17	HSBC LTD
18	DEUTSCHE BANK
19	CORPORATION BANK
20	CITI BANK
21	BANK OF BARODA
22	ABN AMRO BANK
23	UNITED BANK OF INDIA
24	VIJAYA BANK
25	UNION BANK OF INDIA
26	PUNJAB & SIND BANK
27	ANDHRA BANK
28	BANK OF INDIA
29	AXIS BANK

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi – 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal

(Office Seal)

For & On behalf of the Bidder/ Contractor

(Office Seal)

Place-----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____

ANNEXURE – 3

1. Incoming material checks, in-process checks and routine production tests to be carried out as per vendor's internal procedure.

2. Type tests

I. MECHANICAL LOAD TEST (as per IEC 61215:2005)

1. Three cycles of 2400 Pa uniform load, applied for 1 hour to front and back surfaces in turn. **245 kg/ m²** weights (iron bars, bricks, etc.) to be uniformly spread over the entire module. Check for continuity of electric circuit during the test.
2. There should be no evidence of mechanical or visual damage or discontinuity of electrical circuit.
3. Carry out Electrical and Insulation test before and after the tests. Degradation of maximum output power shall not exceed 5 % of the value measured before the test; Insulation resistance should measure \geq **24.25 M Ω** (For 1656 mm * 996 mm Module Size).

II. ROBUSTNESS OF TERMINATION TEST (as per IEC 60068-2-21)

1. **Tensile test Ua:** 40 N applied for 10 seconds to the junction box termination in direction of its axis and acting in a direction away from the body of the component.
2. **Bending test Ub:** Junction box terminations shall be bent through 45° and then returned to their initial position; One bend immediately followed by a second bend in the opposite direction with application of 20 N force for 10 cycles.
3. There should be no evidence of mechanical or visual damage.
4. Carry out Electrical and Insulation test before and after the tests. Degradation of maximum output power shall not exceed 5 % of the value measured before the test; Insulation resistance should measure \geq **24.25 M Ω** (For 1656 mm * 996 mm Module Size).

III. INSULATION TEST (as per IEC 61215:2005)

1. HV Test: 3000 V DC for 1 min. There should not be any di-electric break down.
2. Insulation Resistance Measurement Test at 1000 V DC. IR \geq 24.25 M Ω (For 1656 mm * 996 mm Module Size)