

# **Bharat Heavy Electricals Ltd.,**

(A Government of India undertaking)

## **Electronics Division**

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

Tel **080-26998476** / email: **ramachandra@bheledn.co.in**

Sealed quotations are invited under two part bid system for manufacturing and Supply of 285 Wp PV Modules as per BHEL technical specification PS-439-314 Rev 00.

RFQ NO and date	RCRSCP113 dated 03/11/2014
RFQ due date	24/11/2014 up to 13.00 hrs. of IST (Indian Standard Time)
Date of Advertisement	03/11/2014
Date, Time & Venue of Technical Bid Opening	24/11/2014 up to 13.30 hrs. of IST New Engineering Building 2nd Floor Bharat Heavy Electricals Limited PB NO 2606, Mysore road, Bangalore-560 026. INDIA
Date, Time & Venue of Price Bid opening	Will be intimated later for technically accepted vendors
Address for Communication & Contact Person in BHEL	Mr. Ramachandra Deputy General Manager (MM-SCPV) Bharat Heavy Electricals Limited PB NO 2606, Mysore road, Bangalore-560 026. INDIA Email: ramachandra@bheledn.co.in Telephone number: +91 80 26998476, Fax: +91 80 26989217
Name and address of the Independent External Monitor for this tender	Shri V.V.R. Sastry, Ex CMD/ BEL, 957, 9th Main 3 Stage, 3 Block Basaveswaranagar Bangalore- 560079 Ph: +91 80 23225150 Email: sastry@gmail.com

# REQUEST FOR QUOTATION

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	<b>RFQ NUMBER:</b> RCRSCPV113  <b>RFQ DATE :</b> 03.NOV.2014	<b>Due Date</b> <b>24.NOV.2014</b> <b>Time: 13:00 HRS</b>  <b>VENUE :</b> <b>NEW ENGG. BLDG</b>
MMI:PU:RF:003			

	(for all correspondence) Purchase Executive : RAMACHANDRA Phone : 26998476 Fax : 00918026989219 E-mail: ramachandra@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	PV0679039171 285 - Wp PV Module (multi) DRW PS439314 00	35,000	NO	35,000	28.FEB.2015

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.

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](http://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 .

Vendors list to whom RFQ has been sent:

1. BHEL, Electronics Division (X563699) - 6400044276

For and On behalf of BHEL.

## **SPECIAL TERMS & CONDITIONS**

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

1. 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 given format. 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.** Techno- commercial bid format is provided with this document.

**(b) Price Bid:** Price bid should contain basic unit prices, discount if any, applicable taxes & duties, etc in a sealed envelope super scribed clearly as **“PRICE BID” with RFQ No. and DUE DATE.**

2. 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. DUE DATE and vendor’s address.**

3. The above sealed envelope (Tender) shall reach our office on or before the due date by **13:00 hrs.** Quotations has to be dropped in the **tender box No. 04** kept at BHEL-EDN’s Reception area. 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. Tenders received after due date will not be considered and stand rejected.

4. Quotations are to be duly signed. Unsigned bids / offers are liable for rejection.

5. 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.

6. Procurement of solar cells from BHEL: Vendor shall necessarily procure required number of 156 mm multi solar cells from BHEL at a rate of **Rs. 80/ cell** with applicable taxes and duties extra, against bank guarantee

7. BHEL standard terms of payment is **100% payment with 45 days credit.** Quotations with “Advance payment” or “Inland credit” will be rejected.

8. BHEL standard terms of delivery is **FOR BHEL EDN Bangalore**
9. Quotation should remain valid for a minimum period of **90 days** from the date of technical bid opening.
10. The rate quoted shall be in **price per PV module basis and not per watt**. The particular format given with this document is to be used.
11. 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.
12. 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.
13. BHEL reserves the right to go for **Reverse Auction (RA)** instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.  
In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder will be considered tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
14. Bidders 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.
15. BHEL reserve the right to Split the order quantity in the ratio of 45:35:20 to L1, L2 and L3 vendors respectively, in case L2/L3 accept to supply as per L1 negotiated price. In case, L2/L3 does not accept to supply as per L1 negotiated price, the counter offer will be extended to subsequent vendors.

- 16.** Delivery: First lot of 2000 nos of modules within 4 weeks from date of PO and thereafter at the rate of 2000 nos per week.
- 17.** 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. Test certificates, Calibration certificates and warranty certificates as stipulated at the time of ordering shall be furnished with inspection call for every lot.
- 18.** In the event of delay in agreed contractual delivery as per Purchase Order, penalty @ 0.5 % (half percent) per week or part thereof but limited to a max of 10% (ten percent) value of delayed portion (basic material cost) will be applicable. Delivery will commence from the date of purchase order. The date for which Inspection call is issued by vendor along with test certificates / test reports / Certificate of Conformance / calibration reports, as proof of completion of manufacturing will be treated as date of deemed delivery for penalty calculation. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted.

## Techno-Commercial bid Format

(Please print in Company Letter Head)

**BHEL RFQ No.** : RCRSCP113 dated 03/11/2014 Due on 24.11.2014  
**Item Description** : 285-WATT PV MODULE (MULTI CELLS)  
**Quantity** : 35000 Nos.  
**Supplier Name** :

Sl. No.	Particulars	Bidder's Confirmation
<b>A. PRE QUALIFICATION CRITERIA</b>		
1	Design Qualification and Type Approval as per IEC 61215: 2005 (Edition 2) & IEC 61730: 2004 (Part 1 & Part 2) for mono or multi crystalline PV Modules. Valid IEC Test Certificate to be attached with the offer	Certificate Enclosed: Y/N
2	Vendor should have a minimum of 20 MW PV module automated in-house manufacturing facilities in India.	Y/N Address of the manufacturing plant:
3	Degree of automation in manufacturing facilities. a. Automated tabber-stringer and layup  b. Automated laminator  c. Automated framing	a. Y/N, Eqpt. Make:  b. Y/N, Eqpt. Make:  c. Y/N, Eqpt. Make:
4	Vendor should have manufactured and supplied a cumulative of 10 MW 200-320 Wp (60 or 72 Cells configuration) PV modules (mono or multi) during the period from April 2011 to September 2014. Details of dispatches in the mentioned period to be validated with customer Purchase Orders.	Documents 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.

Sl. No.	Particulars	Bidder's Confirmation
	<b>B. TECHNICAL</b>	
1.	<b>Compliance to BHEL Spec:</b> 285-WATT PV MODULE (MULTI CELLS) to be manufactured and supplied as per BHEL Spec. <b>PS 439 314 Rev 00</b>	Acceptable / Not Acceptable
2.	<b>Replacement of Defective PV Modules</b> Supplier shall agree for replacing visually defective PV Modules found on receipt of modules at BHEL. Each PV module shall be free from the defects as per BHEL specification.	Acceptable / Not Acceptable
3.	<b>Procurement of cells from BHEL:</b> Vendor shall necessarily procure required number of 156 mm multi solar cells from BHEL at a rate of Rs. 80/ cell with applicable taxes and duties extra, against bank guarantee	Acceptable / Not Acceptable
	<b>C. COMMERCIAL</b>	
1.	<b>Terms of Delivery:</b> Prices quoted shall be Ex-BHEL EDN, Bangalore.	Acceptable / Not Acceptable
2.	<b>Delivery Required by BHEL:</b> First lot of 2000 nos. - 4 weeks from date of PO and thereafter at the rate of 2000 nos. per week.	Delivery Schedule quoted :
3.	<b>Penalty for delayed delivery:</b> 0.5 % per week for undelivered portion subject to a maximum of 10 %.	Acceptable / Not Acceptable
4.	<b>Terms of Payment:</b> 100% with 45 days credit after receipt and acceptance of item at BHEL EDN, Mysore Road, Bangalore.	Acceptable / Not Acceptable
5.	<b>Price basis:</b> Price is to be quoted on <b>per module basis</b> . Purchase order will be placed on "number of PV modules" basis. Price shall remain firm till completion of supply of total ordered quantity.	Acceptable / Not Acceptable
6.	<b>Validity:</b> Quotation should remain valid for 90 days from the RFQ due date.	Acceptable / Not acceptable
7	<b>Order Splitting:</b> BHEL reserve the right to Split the order quantity in the ratio of 45:35:20 to L1, L2 and L3 vendors respectively, in case L2/L3 accept to supply as per L1 negotiated price. In case, L2/L3 does not accept to supply as per L1 negotiated price, the counter offer will be extended to subsequent vendors.	Acceptable / Not acceptable

8	<b>Reverse Auction:</b> BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid.	Acceptable / Not acceptable
11	<b>Taxes and Duties</b> Excise duty CST against form C VAT	Applicable Taxes & duties ED : CST : VAT :
12	<b>Integrity Pact:</b> The “Integrity Pact” in the prescribed format has to be signed and enclosed.	Yes/ No
13	<b>Pre-shipment inspection:</b> 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.	Acceptable / Not Acceptable

**Signature of Tenderer /  
with Seal**

Place:

Date:

**PRICE BID FORMAT**

(Please print in Company Letter Head)

**BHEL RFQ No.** : RCRSCP113 dated 03/11/2014  
**Item Description** : 285-WATT PV MODULE (MULTI CELLS)  
**Quantity** : 35000 Nos.  
**Supplier Name** :

<b>Sl. No.</b>	<b>Item Description</b>	<b>Price per PV module (Rs.)</b>
1.	285 - Wp PV Module (multi) as per Spec PS-439-314 Rev 00.	

Please mention below all applicable taxes and duties:

**NOTE:**

1. Technical and Commercial terms shall be as per Techno-commercial bid.
2. Taxes and duties are as per Techno-commercial bid.

**Signature of Tenderer / with Seal**

Place:

Date:



**PURCHASE SPECIFICATION  
GROUP: PHOTOVOLTAICS**

**PS- 439 - 314**

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**285-WATT PV MODULE (MULTI CELLS)**

**Technical Specification:**

Sl. No	Item	Remarks	Vendor Confirmation
1	PV Module Configuration	Single glass laminated type with 72 numbers of 156-mm Multi Crystalline silicon solar cells in 12*6 series configuration as per Module overall assembly drawing no: <b>36790200373</b> and laminate assembly drawing no: <b>36790200384</b> .	Y/N
2	Power Output	285 Watts (minimum)	
3	Overall Module Size (Typ.)	1976 (±3) * 996 (±2) * 50 (±1) mm	Y/N
4	Weight	25 kg. (Typ.)	Y/N
5	<b>Bill of Materials:</b>		
5.1	Solar cells	Three bus bar 156-mm Multi Crystalline silicon solar cells as per <b>PS-439-287</b> with power Output: ≥ 4.13 watts (17 % efficiency). Vendor shall purchase the required no. of solar cells from BHEL as per Terms and Conditions of the Tender.	Y/N
5.2	Glass	<b>As per PS- 439 – 143</b> , ≥ 91 % light transmission, tempered, one-side textured, Size: 1970*990*3.2 mm	Y/N
5.3	Fast cure EVA	Thickness:0.45 to 0.50 mm Width: 995 mm	Y/N
5.4	Back Sheet	Thickness: 0.28 to 0.37 mm Width: 1000 mm Colour: White TUV-certified for partial discharge test for system voltage ≥ 1000 V DC	Y/N
5.5	PV Module Frame, JB Potting	Anodized Aluminum (Corner block type) as per drawing no: <b>36790200350, 46790200119,46790200120</b> & anodizing thickness:18±3 microns( <b>PS-438-562</b> )	Y/N
5.6	Frame Sealing, JB Potting	RTV / Silicone sealant, Neutral cure, White	Y/N
5.7	IP65 grade Junction Box with 3 bypass diodes (15 A, 40 V), 100 cm solar cables with quick connectors (MC4 compatible)	TUV-certified Junction Box which is mounted on the back sheet and adequately sealed for protection against possible moisture ingression. 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	Y/N
5.8	Interconnect & Busbars	Tin-Lead-Silver (62:36:2) coated ETP copper material with coating thickness: 16 to 25 microns on each side. Bus bar: 5 mm * 0.3 – 0.4 mm, IC: 1.5 – 1.7 mm * 0.13 – 0.2 mm	Y/N
5.9	RFID Tag with 2D bar code Alien Technology ALN-9640 Squiggle Passive UHF - EPC Gen 2 compliant Copper/ Aluminum antennas (with PET laminate)	RFID Tags (100 mm * 30 mm) with white polyester label as per spec. <b>PS-439-249</b> containing following data shall be affixed on the backside of the PV module: <ul style="list-style-type: none"> <li>• Name of the Manufacturer of PV Module &amp; Solar cells</li> <li>• Month and year of manufacture for PV Module &amp; Solar cells</li> <li>• Country of origin (for solar cells &amp; PV Modules)</li> <li>• I-V curve, Peak Wattage, Imp, Vmp and FF for the module</li> <li>• Unique Serial No &amp; Model No of the module</li> <li>• Date and Year of obtaining IEC certificate</li> <li>• Name of the test lab issuing IEC certificate</li> </ul> The white polyester label shall have Sl. No., Type, Pmax and 2D barcode containing Module I-V details. The RFID software used for writing the tag shall be compatible for reading by BHEL hand held RFID reader. <b>Note:</b> The specimen of all stickers are as enclosed.	Y/N

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Revision: (00)

Approved By :

SR

*J. Rai*

Prepared *SM* Issued

Date

Engg.

23.10.2014



**PURCHASE SPECIFICATION  
GROUP: PHOTOVOLTAICS**

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Sl. No	Item	Remarks	Vendor Confirmation
6	<b>Typical electrical characteristics:</b>		Y/N
6.1	Open Circuit Voltage (Voc)	44.0 V	
6.2	Short Circuit Current (Isc)	8.5 A	
6.3	Voltages at Peak Power Point (Vmp)	35 V	
6.4	Current at Peak Power Point (Imp)	8.2 A	
6.5	Peak Power Output (Pmax.)	285 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:**

SI No.	Item	Remarks	Vendor Confirmation
1	Power Output	1) Test Report: 285 Wp (minimum). Shall be inspected/verified at vendor's works under STC by BHEL. 2) Sun simulator should be calibrated with PV Module measured at BHEL sun simulator.	Accept: Y/N Accept: Y/N
2	Visual Characteristics	Dimensions of the PV Module : As per BHEL drg. 36790200373. Each PV module shall be free from the following visual defects: Cell breakage/cracks, Air bubbles or de-lamination, Cells overlapping one another or cells touching the edge frame, glass scratches, etc.	Accept: Y/N
3	HV Test Module to withstand High Voltage of 3000V dc as per IEC 61215.	Apply 3000 V DC for 1 minute between the shorted terminals of junction box and aluminum frame. There should not be any di-electric break down.	Accept: Y/N
4	Product warranty	5 Years from the date of supply against manufacturing defects Free replacement against defects.	Accept: Y/N
5	Product performance (power) warranty	From the date of supply of the PV Modules: 90% output for first 10 years. 80% output for next 15 years. Free replacement against non-performance.	Accept: Y/N
6	Grouping of PV Modules	PV Modules shall be grouped in the following power output bands and colour sticker (20mm * 10 mm approx.) to be affixed on the module frames accordingly. <b>Power Output                      Colour Sticker</b> 285 – 289.9 watts                  White 290 – 299.9 watts                  Green >= 300 watts                          Yellow	Accept: Y/N
7	Packing	Modules (18 in 1) to be packed in 7 ply carton box as per BHEL Drawing No: <b>36790200383</b> . Modules of the same group (colour band) to be packed in a box. Same colour code sticker (100*100 mm) shall be affixed on the carton box.	Accept: Y/N
8	BHEL Sl. No. Sticker and Rating Sticker	BHEL serial number sticker shall be laminated inside the module (as per Spec. no <b>PS-439-269</b> ). Module Rating / Safety warning sticker (as per Spec. no <b>PS-439-295</b> ) shall be affixed externally. Details of printing matter as provided by BHEL.	Accept: Y/N
9	Pre-despatch inspection by BHEL	BHEL shall carry out Pre-despatch inspection (Visual and Electrical) of every lot at vendor's works.	Accept: Y/N

**Sampling Size for Inspection by BHEL at Vendor's works:**

**Visual and Electrical (I-V Testing of PV modules and HV Test) Inspection:**

Single Sampling Plan as per IS: 10673-1983, Special Inspection Level S-4, AQL 2.5.

- 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.



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**PURCHASE SPECIFICATION  
GROUP: PHOTOVOLTAICS**

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**BHEL Approved Bill-of-Material/ Supplier List**

Sl. No.	Item	Supplier List	Vendor Confirmation Please indicate vendors name.
1.	Solar Cells	BHEL, Bangalore (To be purchased from BHEL as per Tender terms and conditions)	
2.	Fast cure EVA sheet	Changzhou SVECK, China Hangzhou First PV, China STR, USA Renewsys, Bangalore Etimex, Germany	
3.	Back sheet	Coveme, Italy Keiwa, Japan SFC, Korea Toyo Al., Japan Krempel, Germany Renewsys, Bangalore Isovolta, Austria	
4.	Junction Box (4 terminals, 3 diodes)	Bizlink, China (S419-2C2218-317A, SB1540 diodes) Renhe Photovoltaic, China (PV-RH701, PVS105 diodes) Shanghai Sunlont, China (SL15A3-1, 15SQ045 diodes) Volex, Chennai (PV-VLX001, MBR1545S diodes)  <b>Only the above part numbers are acceptable.</b>	
5.	RFID & Barcode Software	Great Eastern, Bangalore	

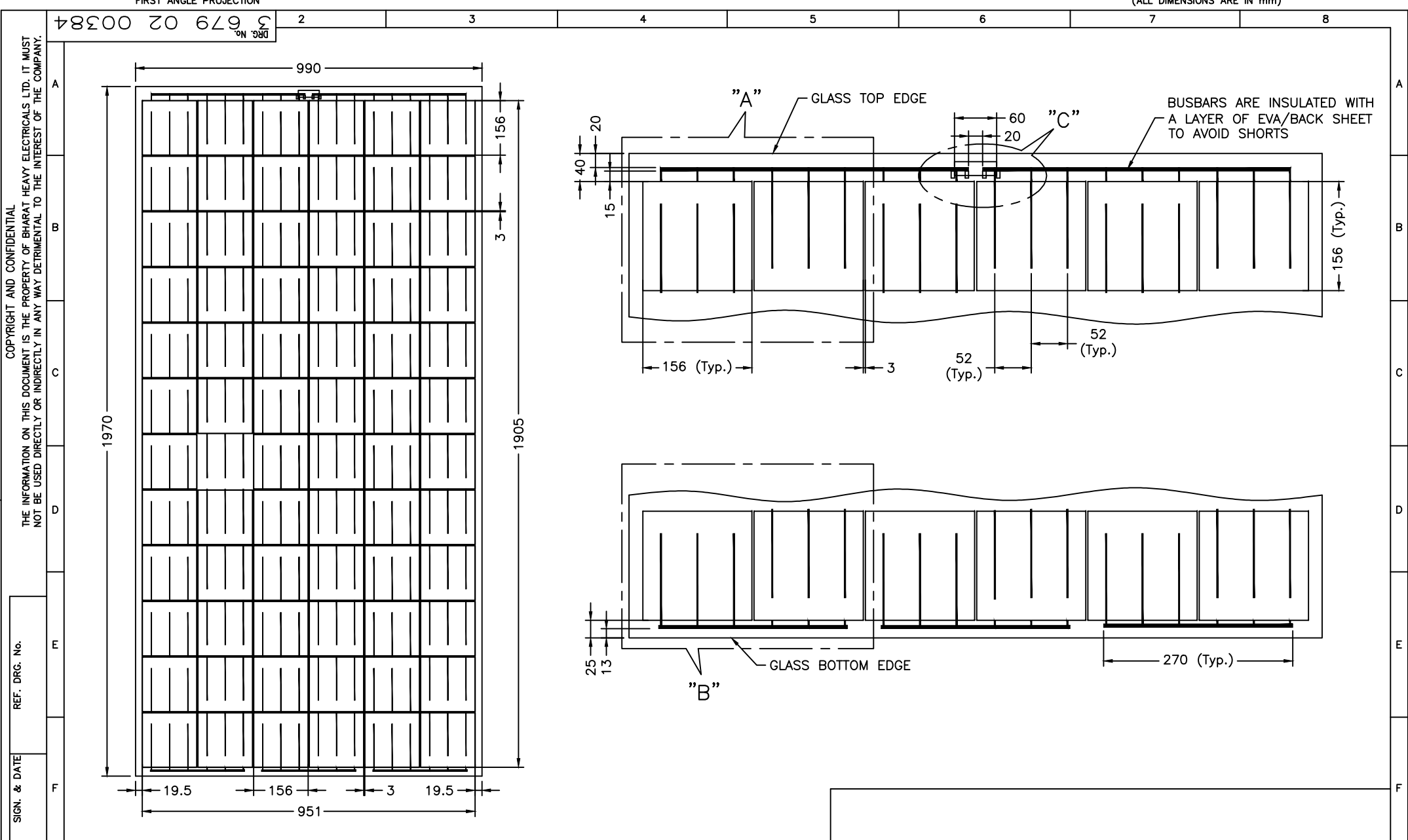
**Note:**

- Vendors shall source the above mentioned materials only from respective approved BHEL suppliers as indicated.**
- Sample Module approval required from BHEL before bulk manufacturing and supply.**

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SIGN. & DATE

REF. DRG. No.

INVENTORY No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE	
		CHECKED	00		CHECKED					
		APPROVED			APPROVED					
FIRST ISSUE						CHECKED	NAR		271014	
						APPROVED	SR		271014	
DISTRIBUTION OF PRINTS						DEPT.	CODE			
						439	SC&PV			

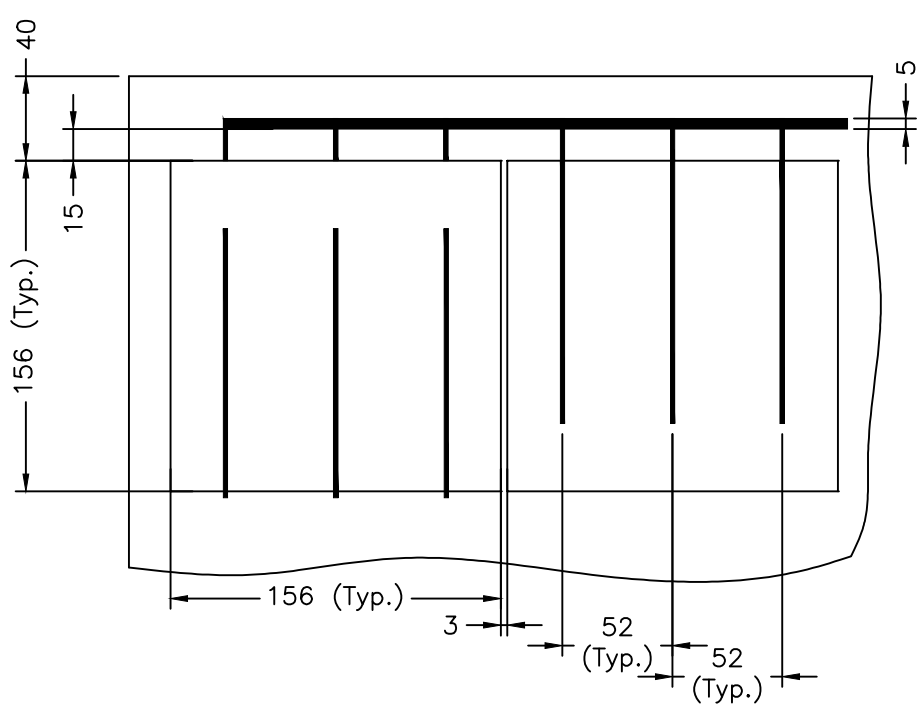
BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE		CARD CODE
TITLE: PHOTOVOLTAIC MODULE LAMINATE LAYOUT L24270P (3 BUSBAR, 52 MM PITCH)		No. OF SHEETS: 03
		SHEET No.: 01
		REV: 00

DRG. No. 3 679 02 00384

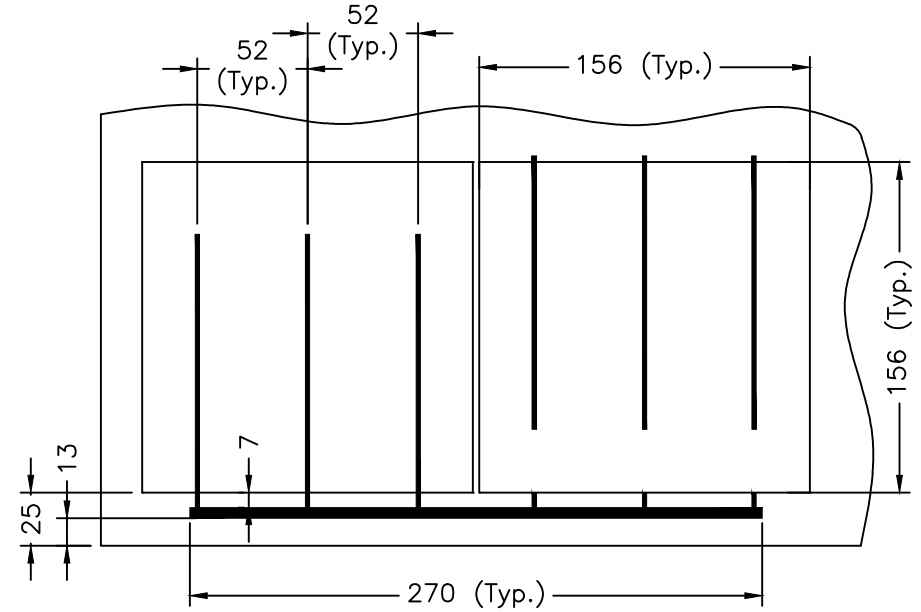
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REF. DRG. No.  
SIGN. & DATE  
INVENTORY No.

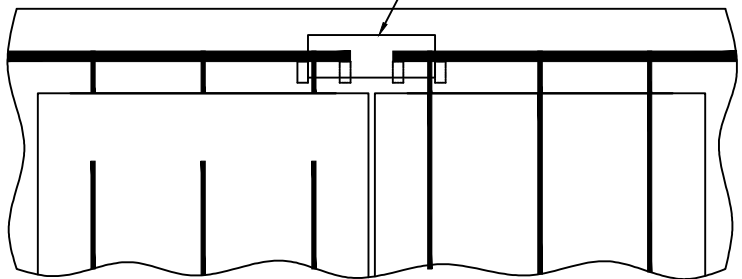
DETAIL "A"



DETAIL "B"



PV MODULE SL.NO. STICKER (60x20 mm)



DETAIL "C"

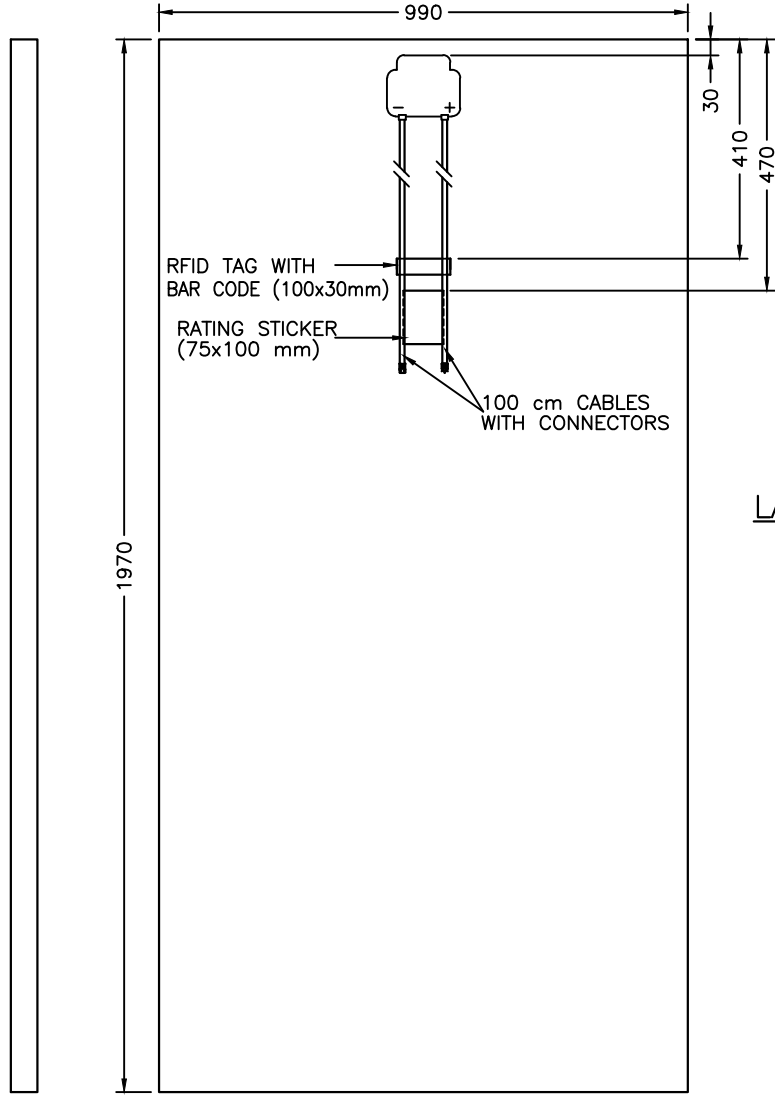
REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE	
		CHECKED	00		CHECKED					
		APPROVED			APPROVED					
FIRST ISSUE						CHECKED	NAR		271014	
						APPROVED	SR		271014	
DISTRIBUTION OF PRINTS						DEPT.	CODE			
						439	SC&PV			

BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE		CARD CODE	
TITLE: PHOTOVOLTAIC MODULE LAMINATE LAYOUT L24270P (3 BUSBAR, 52 MM PITCH)		No. OF SHEETS	03
		SHEET No.	02
		REV	00
M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	DRG. No.	3 679 02 00384

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DRG. No. 3 679 02 00384



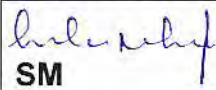
SIGN. & DATE REF. DRG. No. INVENTORY No.




LAMINATE BACKSIDE WITH JUNCTION  
BOX AND STICKERS

REV.	DATE	ALTERED CHECKED APPROVED	REV.	DATE	ALTERED CHECKED APPROVED		NAME	SIGN	DATE
			00			DRAWN	SAN		271014
						CHECKED	NAR		271014
						APPROVED	SR		271014
FIRST ISSUE						DISTRIBUTION OF PRINTS			
						DEPT.	CODE		
						439	SC&PV		

BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE		CARD CODE	
TITLE: PHOTOVOLTAIC MODULE LAMINATE LAYOUT L24270P (3 BUSBAR, 52 MM PITCH)		No. OF SHEETS	03
		SHEET No.	03
		REV	00
M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	DRG. No.	3 679 02 00384

	 <b>A4-11</b>	<b>PURCHASE SPECIFICATION</b>  <b>GROUP: PHOTOVOLTAICS</b>	<b>Spec. No</b> <b>Rev. No</b> <b>Page</b>	<b>PS-439-287</b> <b>01</b> <b>1 of 2</b>
<b>COPYRIGHT AND CONFIDENTIAL</b> <i>The information on this document is the property of Bharat Heavy Electricals Ltd. It must not be used directly or indirectly in anyway detrimental to the interest of the company</i>	<b>ITEM: 156-mm FULL SQUARE MULTI CRYSTALLINE SILICON SOLAR CELLS WITH 3-BUSBARS</b>			
	<p>1.1 MATERIAL : Multi Crystalline Silicon.</p> <p>1.2 DIMENSIONS : 156 ± 1 mm (Side to Side)</p> <p>1.3 SHAPE : Square</p> <p>1.4 THICKNESS : 200 ± 20 microns</p> <p>1.5 METALISATION : Front – Silver Back – Silver busbars with Aluminum BSF. Number of Bus bars: Three (Front and Back)</p> <p>1.6 AR Coating : PECVD Silicon Nitride (Deep blue color)</p>			
	<b>2.0 ELECTRICAL CHARACTERISTICS</b>			
<p>2.1 POWER OUTPUT (Pmax) : ≥ 4.13 Watts</p> <p>2.2 SOLAR CELL EFFICIENCY : ≥ 17.0%</p> <p>2.3 VOLTAGE AT MAX.POWER POINT : 520 mV (Typical)</p> <p>2.4 OPEN-CIRCUIT VOLTAGE : 620 mV (Typical)</p> <p>2.5 SHORT-CIRCUIT CURRENT : 8.50 A (Typical)</p> <p>2.6 FILL FACTOR : 0.75 (Typical)</p>				
	<b>REVISION (01)</b>	<b>APPROVED BY</b>   <b>SR</b>		
		<b>PREPARED</b>   <b>SM</b>	<b>ISSUED</b>  <b>Engg</b>	<b>DATE</b>  <b>30-05-14</b>

		 A4-11	<b>PURCHASE SPECIFICATION</b>  <b>GROUP: PHOTOVOLTAICS</b>	Spec. No	PS-439-287
				Rev. No	01
				Page	2 of 2
<b>COPYRIGHT AND CONFIDENTIAL</b> <i>The information on this document is the property of Bharat Heavy Electricals Ltd. It must not be used directly or indirectly in anyway detrimental to the interest of the company</i>		<b>1.0 VISUAL CHARACTERISTICS :</b>  3.1 Cells shall not have any edge chips or cracks or deep scratches on the surface.  3.2 Cells shall not have any misalignment in the front grid pattern.  3.3 Cells shall not have any finger prints or stains or paste smudges on the surface.  3.4 Cells shall not have Silicon Nitride coating colour variations or inhomogeneity.			
		<b>2.0 PACKING CONDITIONS</b>  4.1 Cells shall be packed tightly with heat shrinkable sleeves, then in foam or thermocole boxes, carton box / plywood box suitable for air-freight.  4.2 Manufacturer name, Cell type, lot number, wattage / efficiency quantity in each packet, date of manufacture to be identified on each packet.  4.3 Test certificate shall be provided along with each consignment.  4.4 BHEL Purchase Order (PO) Number along with details of total quantity, cell wattage and efficiency to be mentioned on the plywood boxes.			
		<b>5.0 SAMPLING SIZE FOR INSPECTION AT BHEL</b>  I. Visual Inspection:  Single Sampling Plan as per IS: 10673-1983, General Inspection Level I, AQL 2.5 %			
		II. Physical & Electrical Measurement:  Single Sampling Plan as per IS: 10673-1983, Special Inspection Level S-4, AQL 2.5 %			



**PURCHASE SPECIFICATION  
GROUP : PHOTOVOLTAICS**

**PS- 439 - 143**

REV. 02

A4-10

PAGE 01 OF 01

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- 1.0 ITEM : FRONT GLASS
- 2.0 APPLICATION : IT IS USED IN PHOTOVOLTAIC MODULES (270 W) FOR COVERING THE CELLS DURING LAMINATION.
- 3.0 TECHNICAL SPECIFICATIONS :
  - 3.1 MATEIAL : TEMPERED
  - 3.2 TYPE : TEXTURED ON ONE SURFACE.
  - 3.3 VISIBLE LIGHT TRANSMISSION : > 91 %
  - 3.4 DIMENSIONS : LENGTH : 1970 ± 1 MM  
WIDTH : 990 ± 1 MM  
THICKNESS : 3.2 ± 0.2 MM
  - 3.5 ALL CORNERS TO BE ROUNDED TO R1. ALL EDGES TO BE GROUND.
  - 3.6 GLASSES SHALL BE FREE FROM VISUAL DEFECTS SUCH AS EDGE CHIPS, DIGS, DIRT, STONES, GASEOUS INCLUSIONS, AIR BUBBLES, SCRATCHES, KNOTS AND DENTS.
- 4.0 PACKING CONDITIONS :
  - 4.1 GLASSES SHALL BE INDIVIDUALLY INTERLEAVED WITH PAPER SHEETS.
  - 4.2 THE GLASSES SHALL BE TIGHTLY PACKED INSIDE A WOODEN CASE (Foreign source-Seaworthy packing, Indian source- Roadworthy packing) TO AVOID TRANSIT DAMAGES.
  - 4.3 EACH CRATE SHALL BE MARKED OUTSIDE WITH MANUFACTURER NAME, LOT NO., DATE OF MANUFACTURE, SIZE OF THE GLASS AND QUANTITY.
- 5.0 TEST CERTIFICATE : Supplier shall provide test certificate for Visible light transmission > 91 %, material as tempered glass with texture on one surface, fragmentation counts and inspection report for dimensions.

REVISION : (02)  
Thickness tolerance revised.

APPROVED BY :

SR

PREPARED

SM

ISSUED

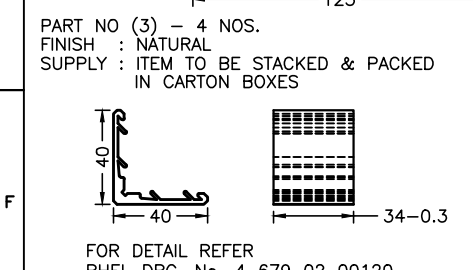
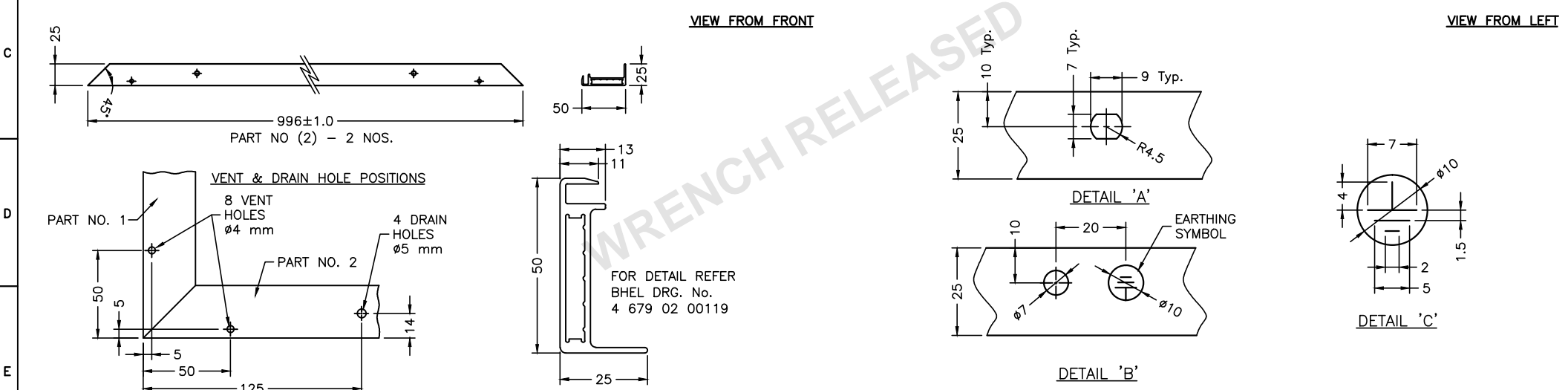
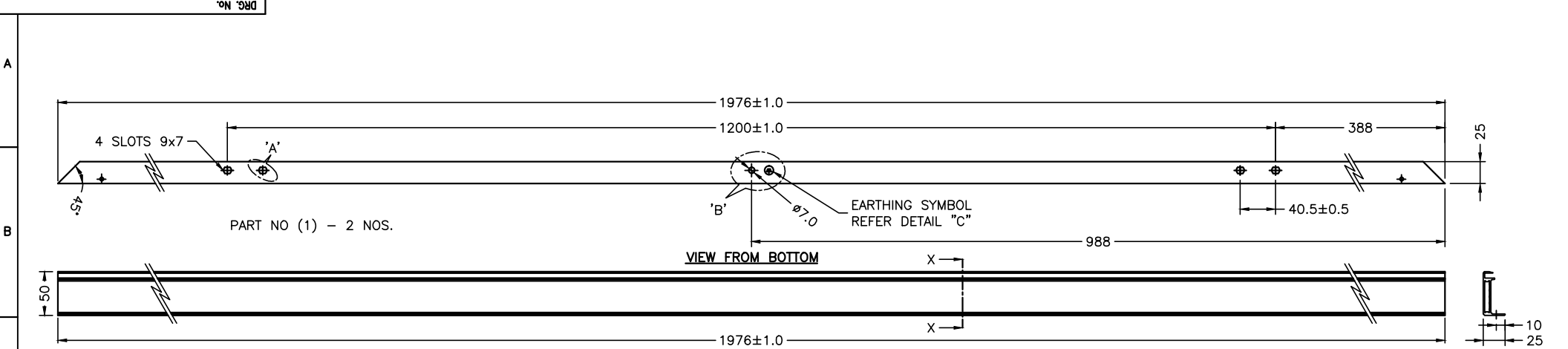
Engg.

DATE

25.10.14

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- NOTE :**
- REMOVE ALL BURRS & AVOID SCRATCHES, DEBURR ALL EDGES FOR PART 1, 2 AND 3.
  - ROUND OFF ALL SHARP CORNERS WITH 0.2 mm
  - OPEN TOLERANCES AS PER ED 0230499 (MEDIUM)
  - FRAME MEMBERS TO BE ANODISED AS PER PS-438-562. ALL FABRICATIONS TO BE DONE AFTER ANODISATION.
  - COATING THICKNESS OF ANODISATION = 18±3 MICRONS (FOR PART 1 & 2).
  - FRAME MEMBER ARE TO BE WRAPPED WITH POLYTHENE COVER OR KRAFT PAPER TO AVOID SCRATCHES AND SUPPLIED IN CARTON BOXES.
  - WALL THK. AFTER ANODISATION PROCESS = 1.5 mm (MINIMUM).
  - EARTHING SYMBOL TO BE PUNCHED ON PART 1 AS PER DRAWING
  - STICKER WITH BHEL PO. NO, MATERIAL CODE, ITEM DETAILS, QTY. AND SUPPLIER NAME TO BE AFFIXED ON EACH CARTON BOX.

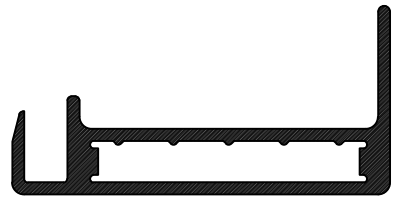
SCALE NTS

REV. 01	DATE 190112	ALTERED SAN CHECKED NAR APPROVED SR	REV. 02	DATE 031013	ALTERED SAN CHECKED NAR APPROVED SR	NAME	SIGN	DATE		TITLE: ALUMINIUM EDGE FRAME - 270 W CORNER BLOCK TYPE	No. OF SHTS	01	
NOTE REVISED.			PART (3) INCLUDED			DRAWN	SAN	Sd/-			290811	SHT No.	01
						CHECKED	NAR	Sd/-			290811	DEPT.	SC&PV

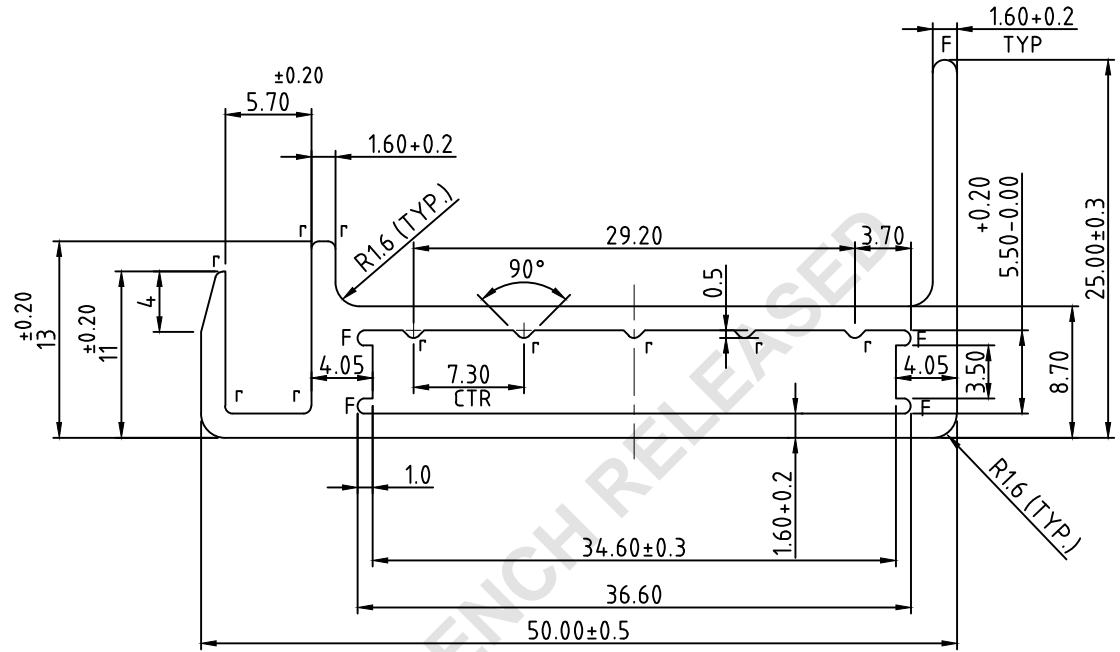
BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE										CARD CODE	
M.O. No.										DRG. No. 3 679 02 00350	
REV 02											

REV. 01	DATE 130112	ALTERED SAN	REV.	DATE	ALTERED	ADDITIONAL INFORMATION					
		CHECKED NAR			CHECKED						
		APPROVED SR			APPROVED						
	1. DRG REVIEWED AND REVISED FOR TOLERANCES. 2. IS:733 WAS IS:63400. 3. ALUMINIUM ALLOY WAS EXTRUDED ALUMINIUM.		FIRST ISSUE		STATUS OF DRAWING						
						DISTRIBUTION OF PRINTS					

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SCALE=1:1



**MATERIAL :** ALUMINIUM ALLOY - 63400 WP/HE9 AS PER IS:733.

- NOTE :**
1. ALL UNSPECIFIED WALL THICKNESS - 1.6±0.2.
  2. r-0.50, F - FULL RADIUS.
  3. DIMENSIONAL TOLERANCES FOR EXTRUDED ALUMINIUM AS PER IS:3965-1981.
  4. HEAT TREATMENT CONDITION : WP
  5. ESTIMATED WEIGHT Kg/m = 0.644
  6. ROUND OF ALL SHARP CORNERS WITH 0.25 mm.
  7. VENDOR EXTRUSION DRAWING TO BE APPROVED BY BHEL.

REF. DRG.NO.								
	REMARKS	ITEM NO.	DESCRIPTION	STD.	MATERIAL CODE	A	UNIT	UNIT Wt.(Kg)
					MATERIAL SPECN.	C		QUANTITY

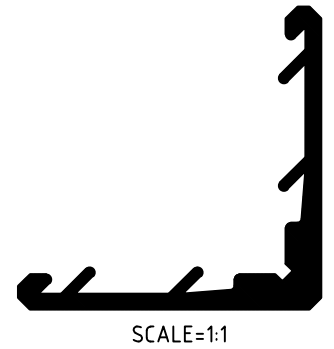
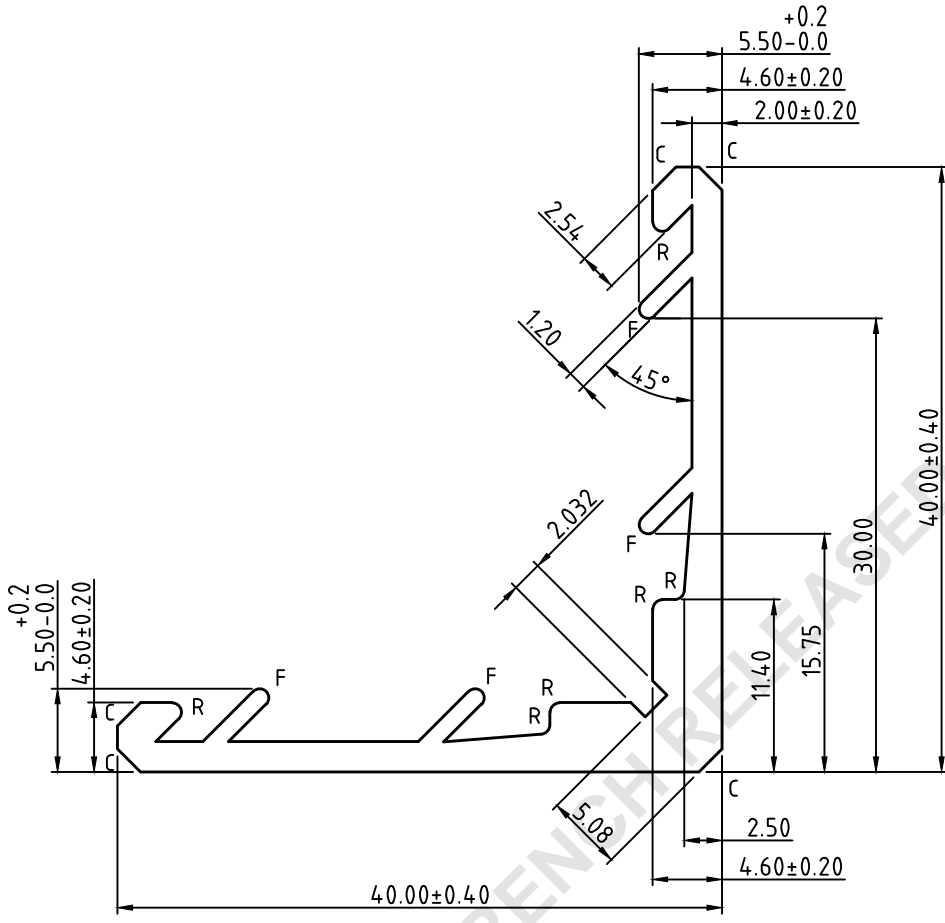
SIGN & DATE		<b>BHARAT HEAVY ELECTRICALS LIMITED,</b> <b>ELECTRONICS DIVISION, BANGALORE</b>	DRN	NAME	SIGN.	DATE	No. OF VAR
			CKD	SAN	Sd/-	250811	
				NAR	Sd/-	250811	
			APPD	SR	Sd/-	250811	

INVENTORY NO.	DEPT. SC&PV	FOR UNSPECIFIED TOLERANCES REFER ED 0230499		SCALE	WEIGHT (Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
	CODE 439			2 : 1				

TITLE				DRAWING NO.			REV.
220W PV MODULE MAIN EXTRUSION				4 679 02 00119			01
				SHEET NO.	NO. OF SHEETS		
				01	01		

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REV.	DATE	ALTERED	SAN	REV.	DATE	ALTERED	ADDITIONAL INFORMATION	
01	130112	CHECKED	NAR			CHECKED		
		APPROVED	SR			APPROVED		
1. DRG REVIEWED AND REVISED FOR TOLERANCES. 2. IS:733 WAS IS:63400. 3. ALUMINIUM ALLOY WAS EXTRUDED ALUMINIUM.				FIRST ISSUE			STATUS OF DRAWING	
							DISTRIBUTION OF PRINTS	



**MATERIAL** : ALUMINIUM ALLOY – 63400 WP/HE9 AS PER IS:733.

- NOTE** :
1. R – 0.635, F – FULL RADIUS, C – 1.524x45°
  2. DIMENSIONAL TOLERANCES FOR EXTRUDED ALUMINIUM AS PER IS:3965–1981.
  3. HEAT TREATMENT CONDITION : WP
  4. ESTIMATED WEIGHT Kg/m = 0.639
  5. ROUND OF ALL SHARP CORNERS WITH 0.25 mm.
  6. VENDOR EXTRUSION DRAWING TO BE APPROVED BY BHEL.

REF. DRG.NO.								
REMARKS	ITEM NO.	DESCRIPTION	STD.	MATERIAL CODE	A	UNIT	UNIT Wt.(Kg)	
				MATERIAL SPECN.	C		QUANTITY	

SIGN & DATE		<b>BHARAT HEAVY ELECTRICALS LIMITED,</b> <b>ELECTRONICS DIVISION, BANGALORE</b>	DRN	NAME	SIGN.	DATE	No. OF VAR
			CKD	SAN	Sd/-	290811	
			APPD	NAR	Sd/-	290811	
				SR	Sd/-	290811	

DEPT. SC&PV	FOR UNSPECIFIED TOLERANCES REFER ED 0230499		SCALE 2 : 1	WEIGHT (Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
CODE 439							

INVENTORY NO.	TITLE	DRAWING NO.	REV.
	CORNER BLOCK EXTRUSION	4 679 02 00120	01
	SHEET NO. 01	NO. OF SHEETS 01	



A4-10

**PURCHASE SPECIFICATION  
GROUP: PHOTOVOLTAICS****PS- 438 - 562**

REV. 14

PAGE 01 OF 02

**ANODIC COATING FOR ALUMINIUM****1.0 SCOPE :**

This specification covers the requirements of electrolytically formed anodic coatings on Aluminum & Al alloy parts which are exposed to direct action of climatic elements (viz SUN, WIND, RAIN, DUST, SALT, and WATER)

**2.0 GENERAL**

- 2.1 Aluminum parts to be anodized are made of Al. alloy (63400-HE9) as per IS 733-1975 and supplied in Wp (temper ) condition.
- 2.2 End use of component is for Photovoltaic module framing.
- 2.3 Anodizing process as per Type-I: IS 7088-1973.
- 2.4 Type of sealing as per IS 7088-1973 (CLAUSE 7).

**3.0 REQUIREMENTS:****3.1 VISUAL :**

The anodic coating shall be continuous, smooth, adherent, uniform in appearance and shall be free from powdery areas, loose films, and discontinuities such as breaks, scratches or other damages.

**3.2 DIMENSIONAL :**

After anodic coating, the parts shall comply with dimensional requirements of the applicable drawings.

3.3 Extent of surface to be anodized : All over

3.4 **Anodic Coating Thickness: 18±3 microns** as per IS 1868-1982 (AC 15 grade ), Table 1.

3.5 **Surface Texture:** Natural matte finish.

REVISION: (14)

Anodising thickness revised to 18±3 microns for all the modules.

APPROVED BY :

SR

PREPARED

SM

ISSUED

ENGG

DATE

02.09.2011

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A4-10

**PURCHASE SPECIFICATION  
GROUP: PHOTOVOLTAICS****PS- 438 - 562**

REV. 14

PAGE 02 OF 02

**3.6 Continuity:**

As per IS 8375-1977.

**3.7 Insulation:**

As per IS 8554-1997, when anodic parts are checked, the break down potential of the coating is to be not less than 500 V DC.

**3.8 Corrosion resistance :**

Each anodised and sealed member when tested as per IS 9000 (part XI)-1983 as per procedure 1 (5% salt solution) shall not show more than 5 isolated spots or pits (0.8 mm dia max).

**Note : Supplier shall produce test certificate from reputed labs for Sl. nos. 3.6, 3.7 and 3.8 which shall not be older than two years as on the date of material supply.****4.0 TEST METHOD****4.1 Visual & dimensional :**Parts selected in accordance with the sampling plan (**Table 1**) and tested for visual and dimensional checks shall comply with clause 3.1 & 3.2.**4.2 Coating thickness:**Parts selected as per sampling plan (**Table 2**) and tested for coating thickness in accordance with IS 6012-1970 shall comply with clause 3.4.**5.0 SAMPLING PLAN:**5.1 Samples for inspection shall be selected as given in **Table 1** & **Table 2**.

5.2 Accept the lot if the number of defectives is less than or equal to the acceptance number (Ac) given in the table for that particular batch size, reject the lot if the number of defectives is equal to or greater than rejection number [Re].

**6.0 TABLE 1****VISUAL AND DIMENSIONAL**

Batch Size	Sample Size	Ac	Re
Upto 5	100 %	-	-
6-50	5	0	1
51-150	20	1	2
151-280	32	2	3
281-500	50	3	4
501-1200	80	5	6

**TABLE 2****ANODIC COATING THICKNESS**

Batch Size	Sample Size	Ac	Re
Upto 8	100 %	-	-
9-1200	8	0	1

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**PURCHASE SPECIFICATION**

**GROUP: PHOTOVOLTAICS**

**Spec. No PS-439-249**

**Rev. No 02**

**Page 1 of 1**

**TECHNICAL SPECIFICATION**

**Passive UHF RFID Tags for PV Modules**

1. ITEM: Passive UHF RFID Tags for PV Modules with White Polyester Label.
2. PURPOSE: For storing PV Module data in it & fixing it on to the PV module as per Jawaharlal Nehru National Solar Mission (JNNSM) guidelines for traceability. The module SI. No., Power output shall be printed on the Polyester label by BHEL and storing of module data into RFID tag shall be carried out by BHEL. The RFID tag, label and adhesive shall be suitable for sustaining outdoor environment.
3. SCOPE OF SUPPLY: Supply of blank RFID tags with polyester white label for writing the required PV module data into each tag as per JNNSM and printing the Module SI. No. and Power output on the white polyester label.
4. RFID TAG TECHNOLOGY: Alien Technology ALN-9640 Squiggle  
 Passive UHF - EPC Gen 2 compliant  
 ISO/IEC 18000-6C compliant  
 Operating Frequency 840-960 MHz  
 Copper/Aluminum antennas (with PET laminate)
5. FORM FACTOR: Wet Inlay
6. RFID TAG DIE-CUT SIZE: (95 – 100) mm \* (25 – 30) mm
7. RFID TAG USER MEMORY SIZE: 512 bits
8. The RFID tag shall be compatible for writing data as per JNNSM guidelines with fixed RFID printer-cum-writer station using the software interfaced with the PV Module tester. The written tag shall also be read by a portable RFID reader at the site.
9. RFID tags to be supplied with white polyester label with acrylic adhesion along with peel off paper **in roll form** for affixing the tag on the PV Module back sheet.

**Note:** Any deviation from the above spec. shall be clearly brought out by the supplier in their offer.

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**REVISION (02)**  
 Spec. completely revised

**APPROVED BY**  
 SR

**PREPARED**

**ISSUED**

**DATE**

SM

Engg.

30-10-2013

DRAWING NO. 3 679 02 00383

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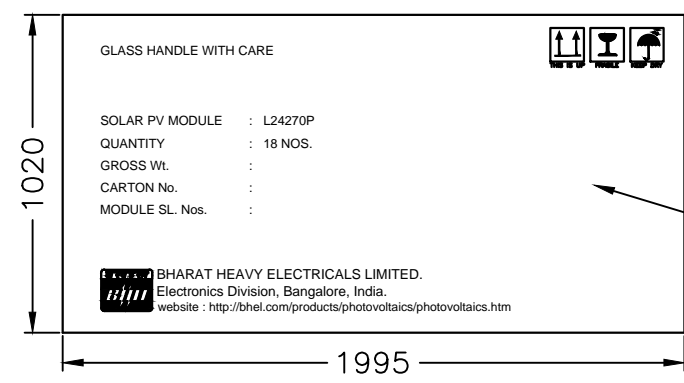
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SLEEVE INNER DIMENSION

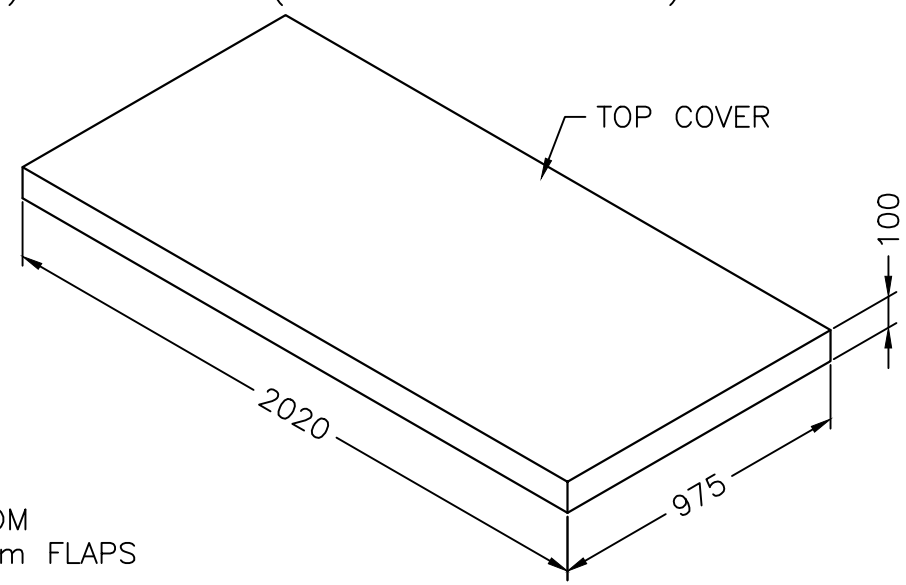
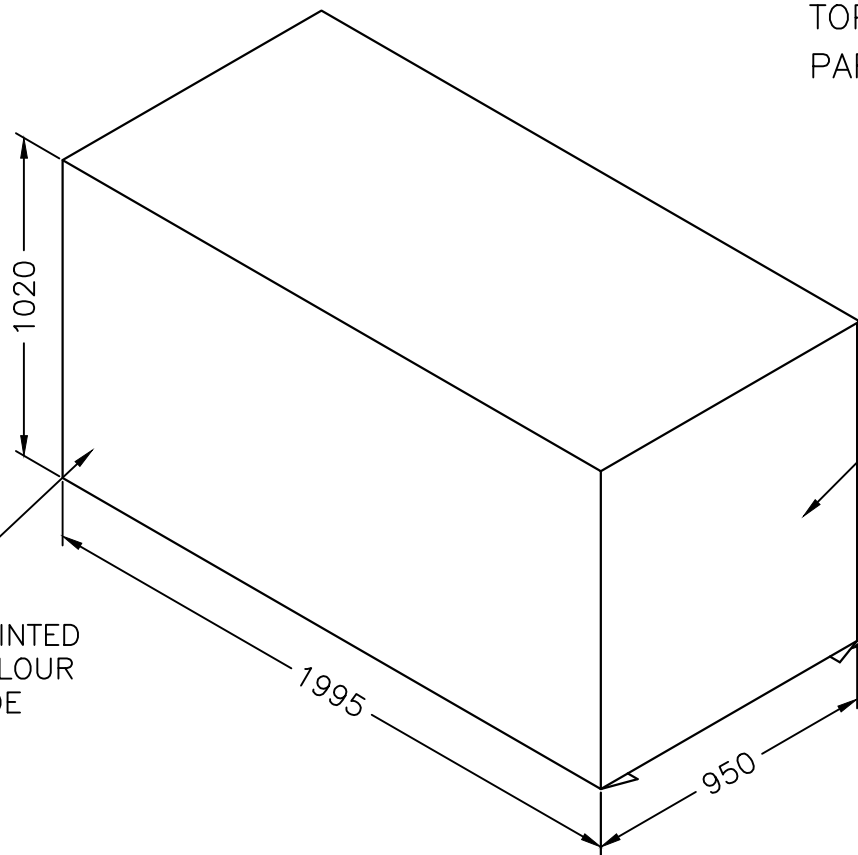
TOP COVER INNER DIMENSION

PART NO. (2) TOP COVER (CORRUGATED CARTON) - 1 NO.

PART NO. (1) SLEEVE (CORRUGATED CARTON BOX) - 1 NO.

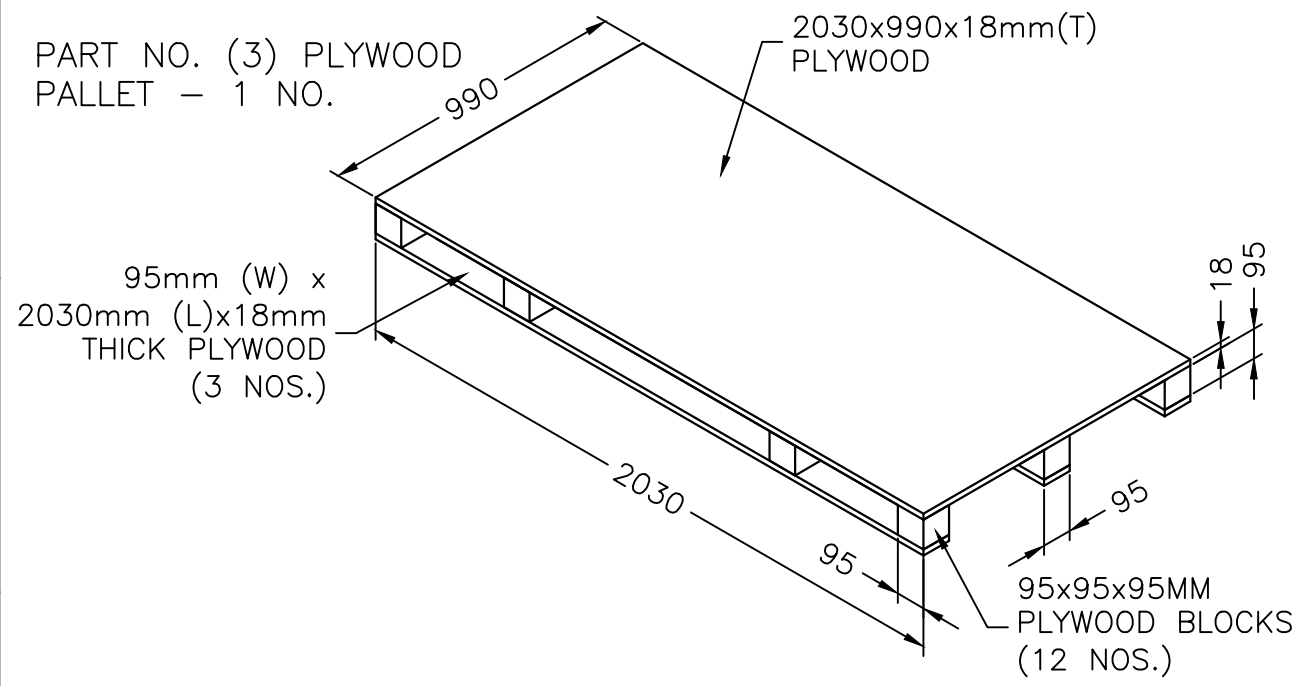


TEXT TO PRINTED IN BLUE COLOUR ON THIS SIDE



THE DIMENSIONS OF SLEEVE AND TOP COVER ARE INNER DIMENSIONS

PART NO. (3) PLYWOOD PALLET - 1 NO.



SPECIFICATIONS

PAPER COMBINATION : 469/200/180/200/180/200/469 GSM  
 PAPER COLOUR : BROWN  
 FLUTE TYPE : AAA OR ACB  
 NO OF PLY : 7 PLY

SLEEVE

TOP COVER

300/180/200/180/200 GSM  
 BROWN  
 AC  
 5 PLY

NOTES :

1. ALL THE DIMENSIONS ARE IN MM.
2. FLUTE DIRECTION TO BE ALONG HEIGHT OF THE BOX.
3. SLEEVE & FLAP ARE TO BE FORMED FROM SAME CORRUGATED SHEET.
4. SELF ADHESIVE BHEL SPECIFIED COLOR STICKER OF SIZE 100x100 MM. TO BE AFFIXING ON THE PRINTING SIDE.
5. WRAP THE CARTON BOX TIGHTLY ALONG WITH WOODEN PALLET WITH BALE PATI AT THREE PLACES.
6. WRAP THE CARTON BOX WITH A POLYETHYLENE STRETCH WRAP ALL ROUND FOR PROTECTING AGAINST RAIN.

PART NO. (4) BOTTOM SHEET-1No OF 1985x950mm, 5 PLY 250/180/180/180/250 GSM SHEET

PART NO. (5) MODULE CORNER CAP - 72 NOS. 150x150mm, THICKNESS 0.6 TO 1.0mm

PART NO. (6) RETAINER STRIP - 2 NOS. 1150x100mm, 3 PLY.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

	BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE			
	DRN	NAME	SIGN.	DATE
	CKD	SM	Sd/-	271014
APPD	SR	Sd/-	271014	

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED	00		CHECKED
		APPROVED			APPROVED			APPROVED
FIRST ISSUE								

DEPT. SC&PV	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE NTS	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
CODE 439						
TITLE				DRAWING NO.		REV.
PACKING BOX FOR L24270P - 18 IN 1				3 679 02 00383		00
SHEET NO. 01			NO. OF SHEETS 01			



**PURCHASE SPECIFICATION**

**GROUP: PHOTOVOLTAICS**

Spec. No **PS-439-269**

Rev. No **01**

Page **1 of 1**

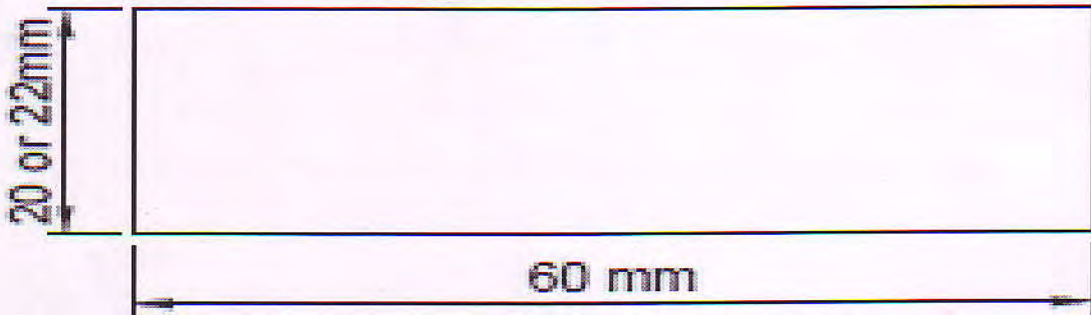
**TECHNICAL SPECIFICATION**

**BLANK PV MODULE SERIAL NO. STICKER**

- 1.0 ITEM : UL Certified Blank PV Module Serial No. Sticker (without any printing)
- 2.0 PURPOSE : For laminating inside the PV Module
- 3.0 SIZE : 60 \* 20 mm or 60 \* 22 mm
- 4.0 MATERIAL : White Polyester
- 5.0 ADHESIVE : Acrylic
- 6.0 THICKNESS : Polyester – 50 to 58 micron, Adhesive – 20 to 25.4 micron
- 7.0 COLOUR : White
- 8.0 Sticker to withstand Lamination temperature upto 149 °C

**Note:**

1. Stickers should be supplied in roll form along with peel off paper suitable for printing using bar-code printer.
2. Test Certificate to be provided certifying the material.



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**REVISION (01)**  
Fully revised.

**APPROVED BY**

SR

**PREPARED**

**ISSUED**

**DATE**

PJ

Engg

11-12-2012



A4-11

PURCHASE SPECIFICATION

GROUP: PHOTOVOLTAICS

Spec. No PS-439-295

Rev. No 00

Page 1 of 1

## TECHNICAL SPECIFICATION

## BLANK PV MODULE RATING STICKER

- 1.0 ITEM : Blank PV Module Rating Sticker  
(without any printing)
- 2.0 PURPOSE : For printing it with PV Module rating details and fixing on to the  
back sheet of the PV Module.
- 3.0 SIZE : 75 \* 100 mm
- 4.0 MATERIAL : Polyester , 50 micron thick
- 5.0 ADHESIVE : Acrylic or rubber based
- 6.0 COLOUR : Silver-grey

**Note:**

1. Stickers should be supplied in roll form along with peel off paper suitable for printing using bar-code printer. Number of stickers per roll = 1000 max.

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REVISION (00)

APPROVED BY

SR

PREPARED

ISSUED

DATE

PJ

Engg

04-03-2013



SL.NO : B1405745

TYPE : L24270P



SL. NO. STICKER

SL.NO : B1405745

TYPE : L24270P

Pmax : 290.50



RFID cum 2D BAR  
CODE STICKER



BHARAT HEAVY ELECTRICALS LIMITED,  
ELECTRONICS DIVISION, BANGALORE, INDIA

श्री श्री भारती

PHOTOVOLTAIC MODULE TYPE NO. : L20220

TYPICAL ELECTRICAL SPECIFICATION \*

Peak Power (Pmax)	:240Wp
Open Circuit Voltage(Voc)	:36.0V
Short Circuit Current(Isc)	:8.5A
Voltage at peak power point (Vmp)	:29V
Current at peak power point (Imp)	:8.25A
Maximum Over current Protection /	:15A
Series Fuse Rating	
Maximum System Voltage	:1000V
Bypass diode rating (Current)	:15A

\* For individual module data, pt. refer test report.

Above specifications are at STC :

Insolation 1000 W/m<sup>2</sup> , AM 1.5, Cell TEMP. 25 ° C



WARNING

ELECTRICAL HAZARD

- This PV module produces electricity when exposed to sun light. Cover the module front glass before removing junction box cover.
- Follow all applicable electrical safety precautions / local codes.
- ONLY qualified personnel should install or perform maintenance work on these modules.
- BE AWARE of dangerous high DC voltage when connecting modules.
- Do NOT disconnect the modules or connectors under load.
- Concentrated sunlight shall not be directed on modules.
- Do NOT damage or scratch the rear surface of the module.
- Do NOT handle or install modules when they are wet.
- Follow the battery manufacturer's recommendations if batteries are used with modules.

DATA FOR 285-Wp PV  
MODULE  
RATING STICKER

PHOTOVOLTAIC MODULE TYPE No. : L24270P

Peak Power (Pmax) : 285 Wp

Open Circuit Voltage (Voc) : 44.0 V

Short Circuit Current (Isc) : 8.5A

Voltage at peak power point (Vmp) : 35 V

Current at peak power point (Imp) : 8.2 A

Maximum Over current Protection/ : 15 A

Series Fuse Rating

Maximum System Voltage : 1000 V

Bypass diode rating (Current) : 15 A

**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 Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

## **Section 4 – Compensation for Damages**

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to 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 demand from his sub-contractors a commitment consistent with this Integrity Pact. 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.
- 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 when both parties have legally signed it. 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) \_\_\_\_\_  
\_\_\_\_\_

## **INSTRUCTIONS TO BIDDERS / SELLERS**

### **A. Scope & Applicability :-**

These Instructions along with all the details, terms & conditions in the RFQ and General Conditions of Contract (Document No: BHEL: EDN: SHOP: GCC: Rev00) shall apply for this REQUEST FOR QUOTATION (RFQ) and any resulting Order(s) / Agreement(s).

### **B. Definitions :-**

Throughout the documents referred to in A above the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.

- **The Purchaser** means Bharat Heavy Electricals Limited (a Central Public Sector Enterprise) incorporated under the Companies Act, 1956 having its registered office at BHEL House, Siri Fort, New Delhi-110049, India acting through its Electronics Division / Electronics Systems Division at Bangalore and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- **The Bidder** means the person, firm, company or organization to whom the RFQ is addressed / submits an offer against such RFQ and shall be deemed to include its successors, representative heirs, executors and administrator as the case may be. It may also be referred to as Seller, Contractor, Supplier or Vendor.

### **C. General :-**

1. All correspondence / clarifications shall be addressed to the contact person given in the RFQ / Purchase Order/Agreement.
2. In case of non-participation in the tender, regret letter with reason shall be sent by the vendor to the purchaser. If a vendor fails to respond against three consecutive tenders for the same item, he will be liable for removal as a registered vendor of BHEL for the item.
3. All timings are Indian Standard Time (IST).
4. Bidders shall not engage the services of the firms banned by BHEL. List of such banned firms is available at website [www.bhel.com](http://www.bhel.com). Offers of the bidders who are on the banned list/who engage the services of banned firms shall be rejected.
5. Any consultant or consultant firm including any of its affiliates or associates shall not be eligible to participate in tender / s for the related goods or works or services for the same project, for which they were engaged for the consultancy services by BHEL.
6. **Agents / Representatives of OEMs / Principals :-**
  - a. BHEL prefers to deal directly with Original Equipment Manufacturers (OEMs) / Principal for all its purchases. However, if the OEM / Principal insist on engaging the services of an Agent/Representative, such Agent / Representative will be allowed to represent only one OEM / Principal in the same tender. Either the Agent / Representative could bid on behalf of the OEM / Principal or the OEM / Principal could bid directly but not both. In case bids are received from both the OEM / Principal and the Agent/ Representative, the bid received from the Agent/Representative will be ignored.
  - b. Agent/Representative authorized by the OEM/Principal in turn cannot further sub authorize any other firm for submitting the offer or for placement of order.
  - c. Valid Authorization letter from the OEM / Principal to quote and negotiate on behalf of OEM / Principal to be submitted by the respective Agent/Representative.
7. **The Purchaser Reserves the Right to :-**
  - a. Cancel / retender the RFQ at any time before placement of Purchase Order / Agreement, without assigning any reason.
  - b. Change the quantity to be ordered and the delivery schedule before placement of PO with mutual agreement with the seller.
  - c. Adopt any method(s) of bidding including Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.
  - d. Split the quantity in the RFQ among bidders for ordering.
  - e. Accept / not accept whole / part of any offer(s).
  - f. Accept / Reject any of the counter terms / deviations offered by bidder.
  - g. Seek information / clarifications / confirmations relevant to the RFQ from the bidder(s) and fix deadlines for furnishing of the same by the bidder(s) and not to consider the offer(s) of such bidder(s) for further processing who fail to provide such information / clarifications / confirmations within the deadline fixed.
  - h. Negotiate with the L1 bidder.
  - i. Take necessary action as per prevalent BHEL Policy, with regard to the bidder(s) / vendor(s) who is/are :-
    - (i) Non-responsive.
    - (ii) Found to have been involved in unfair practices / actions contrary to business ethics /actions restricting competition.
    - (iii) Withdrawing offers after opening of Part I bid / s.

**D. Guidelines for Making the Offer :-**

1. Separate offer in English language addressed to the Purchase Executive shall be made for each RFQ in Single part/two parts/three parts as indicated in the RFQ.
2. a) **Single Part Bid:** Complete offer i.e., techno commercial bid and price bid to be made in single part. Offer shall be placed in a sealed envelope superscribed with RFQ No & Due Date.  
b) **Two Part Bid :** Offer shall be made in two parts as detailed below:  
"Techno-commercial Bid (Part I Bid) placed in a sealed envelope super scribed with RFQ No , Due date & "Techno Commercial Bid (Part I Bid)" & "Price Bid (Part II Bid)" placed in a separate sealed envelope superscribed with RFQ No, Due Date & "Price Bid (Part II Bid)". Both the sealed envelopes shall be placed in another sealed envelope superscribed with RFQ No & Due date  
c) **Three Part Bid:** Offer shall be made in three parts as detailed below:  
"Pre-Qualification Bid (Part I Bid)" in a sealed cover superscribed with RFQ No, Due Date and "Pre-Qualification Bid (Part I Bid)" , "Techno-commercial Bid (Part II Bid)" placed in a separate sealed envelope super scribed with RFQ No , Due date & "Techno commercial Bid (Part II Bid)" & "Price Bid (Part III Bid)" in another separate sealed envelope superscribed with RFQ No, Due date and "Price Bid (Part III Bid)". All the three sealed envelopes shall be placed in another sealed envelope superscribed with RFQ No & Due date.
3. Offers for RFQs on EPS (E-Procurement System) shall be made only on the template on EPS portal. All documents as required shall be uploaded on the portal.
4. Offer shall be in accordance with and complete in all respects with regard to the requirements of the RFQ.
5. Offers of Vendors who already have a valid Technical/Commercial MOU with BHEL-EDN for the items of the RFQ shall mention the relevant MOU reference No and give only such other details not covered in the MOU.
6. Corrections / overwriting shall be avoided. Corrections if any shall be respectively incorporated in all the bids (part-I / II / III i.e, Prequalification Bid / Techno-commercial Bid/ Price Bid) as applicable and shall be duly authenticated at each instance of correction by the authorized signatory with name and designation.
7. Offer shall have a minimum validity period of 90 days from the due date of the RFQ.
8. Please refer Clauses E and F below for Standard Commercial Terms and commercial deviations and loading of offers.
9. Bidders to be considered as Micro and Small Enterprises (MSEs) are required to submit the documents as per **Annexure I**.
10. **Non acceptance/deviations if any to the terms and conditions of the RFQ shall be clearly and explicitly mentioned in the offer, otherwise it will be treated that all the terms and conditions of the RFQ are accepted by the bidder in total.**
11. **Pre-Qualification Bid:** Shall have all details required as per RFQ along with documents as applicable.
12. **Techno Commercial Bid:**
  - a. Shall include BHEL material code and description as per RFQ and details of the item offered including make/model/part no along with relevant documents like drawings/data sheets/catalogs/BOMs etc. as applicable.
  - b. Commercial terms such as delivery period, delivery terms, payment terms, taxes and duties as applicable. Delivery quoted shall be earliest firm in terms of no of days/weeks/months from the date of PO/Drawing Approval/Manufacturing clearance as applicable. It is recommended to avoid delivery terms such as 'ex-stock', 'subject to prior sale' or 'delivery at the earliest', 'subject to release of PO within ----- period' and 'delivery range eg X-Y weeks'. **(Please Refer Clause 15 of General Conditions of Contract (Document No: BHEL: EDN: SHOP: GCC: Rev00) is applicable for delayed deliveries)**
  - c. In case the bidder quotes for imported material to be supplied directly to BHEL / Destination, the minimum amount of CVD that will be passed on to BHEL for availing CENVAT credit to be indicated.
13. **Price Bid:**
  - a. Most competitive price(s) to be quoted.
  - b. Shall include Price details such as currency ,item unit price, total price, discounts if any, packing forwarding charges ,freight, insurance , taxes and duties indicating the nature(eg ED, Cess, VAT ) as applicable.
  - c. **Quoted price(s) shall be FIRM and valid till the complete execution of Purchase Order / Agreement, except where price variation is specifically included in RFQ terms in which case the price(s) quoted shall be in accordance with the price variation formula given in the RFQ.**
  - d. Prices in both figures and words to be indicated.
  - e. Applicable documents shall be submitted to the purchaser at the time of supply for availing CENVAT/VAT credits.
  - f. The price quoted against each item shall be for units stated in the RFQ. Where quotation is in terms of a unit other than that in the RFQ, relationship between the two units shall be clearly brought out.
  - g. Registration details of the bidder such as TIN number, ECC number, KVAT / CST / GST / Service Tax Number as applicable shall be mentioned (applicable for bidders within India).

**E. Purchaser’s Standard Commercial Terms :-**

1. Unless specified otherwise in the RFQ , following are the Purchaser’s standard commercial terms:-

SI No	Description	For Purchase within India	For Foreign Purchase(Direct Imports)
i	Delivery Terms	<p><b><u>For High Sea Sales(HSS) :-</u></b> CIF Destination Airport (Name of Airport as given in the RFQ)</p> <p><b><u>For other than HSS :-</u></b> Door Delivery to BHEL Stores ,Bangalore with Freight and Insurance paid</p>	FCA International Gateway Airport (For shipment by air, Refer <b>Annexure II</b> for details) <b>OR</b> FOB Sea Port (for shipment by sea)
ii	Payment Terms	<p><b><u>100% direct payment with 45 days credit from the date of :</u></b> a) Receipt of material for Door delivery BHEL stores b)Receipt of complete set of documents for High Sea Sales c)Invoice for Ex-works delivery</p>	100% against sight draft with 45 days credit on negotiation of complete set of documents
iii	Reckoning of Delivery Date	<p><b><u>For Door Delivery at BHEL Stores:-</u></b> Date of receipt of material at BHEL Stores.</p> <p><b><u>For High Sea Sales(HSS) :-</u></b> Date of receipt of complete set of High Sea Sales documents</p> <p><b><u>For Delivery Terms of Ex-works /Negotiation of Documents Through Bank:-</u></b> Date of invoice</p> <p><b><u>Where Pre Shipment Inspection at seller’s works is applicable :-</u></b> Inspection call for the date on which material is ready for inspection supported with documents such as TC’s/ COC’s as applicable.</p>	<p><b><u>For Delivery Terms of Ex-works :-</u></b> Date of invoice</p> <p><b><u>For Delivery Terms of CIF/CIP/ FCA / FOB</u></b> Date of House Airway Bill(HAWB) / Bill of Lading / Date of receipt by BHEL’s Freight Forwarder whichever is earlier</p>
iv.	Penalty for Delayed Delivery	As per clause 15 of General Conditions of Contract (DOC .NO.BHEL :EDN:GCC-SHOP:REV:00)	
v	Cancellation/ Termination of Contract & Risk Purchase	As per Clause 24 of General Conditions of Contract ( DOC.NO.BHEL:EDN:GCC – SHOP :REV:00)	

2. When Bank Guaranty (BG) is applicable as per RFQ terms, the same shall be from any one of the BHEL Consortium of Banks (Refer **Annexure III**) in the prescribed format as per **Annexure IV**. The bank Guarantee shall be sent directly to BHEL by the issuing bank.

**F. Commercial Deviations / Offered Terms & Loading of Offers :-**

Unless specified otherwise in the RFQ and if the Purchaser decides to accept offers with deviations in respect of the standard commercial terms given at Clause No. E1 above, such offers will be subjected to loading on the **quoted basic material value** as detailed below:-

SI No	Deviation on	Nature of Deviation / Offered Terms	Loading %
i	Delivery Terms	<b>For purchase within India :-</b> Other than SI No.1 (i) of clause E above.	10
ii.	Payment Terms	<b>For purchase within India :-</b> 1) Payment against delivery/Proforma payment against receipt of material	15
		2) Payment against documents through bank – Delivery of material on production of consignee copy of LR	15*
		3) Credit period less than 45 days, but not less than 15 days.	10
		4) Payment against documents through bank with consignment door delivered to BHEL stores (without consignee copy of LR) and 45 days credit period.	2*
		<b>For foreign purchase :-</b> 1) Payment through At Sight Letter of Credit	10
		2) Payment through Letter of Credit with usance credit of 45 days	5
iii	Penalty for Delayed Delivery	3) Sight Draft with credit period less than 45 days	5
		1) Non – Acceptance	10
		2) Partial Acceptance ( X% )	(10 – X)

\* All bank charges shall be to seller's account. If bank charges of BHEL banker are to BHEL's account then **additional loading of 2% on the quoted basic value** is applicable.

**NOTE: Offer/ s with payment terms other than the standard payment terms indicated at E1(ii) or Deviated Payment Terms with loading indicated at F(ii) above are liable for rejection.**

**G. Submission of Offers:**

Offers shall be submitted as indicated below **within the due date and time** indicated in the RFQ/Any subsequent change intimated by Purchaser.

SI No.	Offer For	Mode of Submission
i	RFQs on EPS	Shall be made on the EPS (e-Procurement System) portal in line with the instructions given therein. <b>Notes :</b> a) To quote for the RFQs published through EPS vendors should have class III, 2048 Bit digital signature certificate (DSC) for both encryption and signing obtained from Certifying Authority (CA) authorized by Govt. of India through their Licensed Registering Authority (LRA). b) All required documents shall be uploaded before due date and time. Availability of power, internet connectivity, etc. is the sole responsibility of the bidder. Assistance required if any, may be availed from the Seller's Manual available on EPS portal of BHEL/ help line numbers of BHEL's Service Provider
ii	Other RFQs	Shall be dropped in the appropriate tender box as per details given in the RFQ OR May be Sent through post/courier/Fax/Email/EDI to the Purchase Executive/Fax No/Email ID indicated in the RFQ * * Bidders may adopt this mode at their own risk. The Purchaser does not own any responsibility / liability for delays in receipt / loss of secrecy of such offers. Such offers shall be received well in advance to enable them to be dropped in the tender box in time.

**NOTE :**

**OFFERS RECEIVED BEYOND DUE DATE AND TIME WILL NOT BE CONSIDERED**

## H. Processing of Offers Received:

1. Only offers received in the mode and within the due date and time indicated in RFQ will be considered for processing.
2. The following offers may not be considered for processing
  - a) Incomplete
  - b) Conditional
  - c) With deviations other than listed in clause F above
3. If non acceptance to any of the terms & conditions of the RFQ or deviations if any are not clearly mentioned in the offer, it will be treated that all the terms & conditions of the RFQ are accepted by the bidder in total.
4. If offer is revised within the due date and time of the RFQ on e-Procurement System, latest will be available for processing. In other cases the latest offer will be considered for processing only when there is a clear indication of the same, otherwise BHEL reserves the right to consider/not consider any of the offers received.
5. **For offers on EPS, in case of any contradictions/inconsistency between the offered details on the bid template and those in the attachments, the offered details on the bid template only will be considered.**
6. If a range is given for delivery, longest duration in the given range will be considered as the quoted delivery. If any drawing / sample / technical datasheets/Quality Assurance Plan approval or Manufacturing Clearance by Purchaser is involved the quoted delivery will be considered from the date of such Approval / Clearance by the Purchaser. Bidder to clearly indicate the time (in terms of no of days / weeks from the date of PO) for submission of such Drawings /Data Sheets/ Samples/QAP to the Purchaser.
7. Changes in offer (Impact Bid)/Discounts or revised offers given after opening of Part-I bid will not be considered unless the same is sought by the Purchaser due to any change(s) in technical scope and / or specifications and / or commercial terms & conditions. In case of withdrawal of any Technical/Commercial deviation(s) by the bidder before opening of price bids, revision of price/impact bid will not be considered.
8. Any discount on the already submitted offer by the bidder on its own will be considered provided it is received on or before the due date and time of offer submission and clearly mentions "Discount offer to be considered along with the original offer "(on the envelope also). The discount will be applied on pro-rata basis to all the items unless mentioned otherwise by the bidder.
9. In case of two / three part bids, price bids of the techno-commercially accepted offers, only will be opened on a subsequent date, with prior intimation.
10. Offers considered with commercial deviations will be subject to loading as per clause F above.
11. In case BHEL decides to go for Reverse Auction Guidelines as **per Annexure V** are applicable. Only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "**online sealed bid**" in the Reverse Auction. Non submission of "**online sealed bid**" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. In case BHEL decides **NOT to adopt Reverse Auction** method of bidding, the sealed price bids and price impacts if any, of all the techno commercially qualified bidders already submitted and available with BHEL shall be opened as per BHEL's standard practice.
12. Evaluation of Price bids will be done on the basis of "**Total Cost to Purchaser** "taking into consideration:
  - d) Basic material value, taxes and duties, packing and forwarding charges, freight and insurance, any other costs and loading for deviations if any, as applicable.
  - e) CENVAT/MODVAT/VAT credit benefits available to BHEL.
  - f) Calculated costs of freight, insurance and clearance charges as applicable, for foreign purchases.
  - g) RFQ item wise prices unless specified otherwise in the RFQ terms.
  - h) The offered quantity if offered quantity is more than the RFQ quantity
  - i) For offers in foreign currency, the exchange rate (TT selling rate of State Bank Of India (SBI)) will be taken as under :-

**Single Part Bids: -** Date of tender opening

**Two / Three part bids / Reverse Auction: -** Date of Part-1 bid opening

If the relevant day happens to be a bank holiday then the FOREX rate (TT selling rate) as on the previous bank (SBI) working day will be taken.

13. Any typographical error, totaling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per Clause 11.2.3 "Non-conformities between the figures and words of the quoted prices" of "Manual on Policies & Procedures for purchase of goods" issued by Ministry of Finance / Government of India.(Refer **Annexure VI**). BHEL's decision will be final in this regard.
14. Ranking (L-1, L-2 etc.) will be done only for the techno-commercially accepted offers.
15. Purchase Preference for MSE Vendors will be considered as per **Annexure VII**.

**I. Despatch, Invoicing and Documentation :-**

1. All goods shall be consigned to the Consignee details as given in the Purchase Order.
2. Quantity of goods in invoice / delivery challan shall tally with the goods delivered.
3. For delivery terms Ex-Works, the Seller shall intimate the readiness of goods to BHEL/BHEL's authorized freight forwarder/BHEL's authorized transporter and the goods shall be handed over to the BHEL's authorized freight forwarder/BHEL authorized transporter / agency assigned by BHEL. Goods can also be despatched as mutually agreed between BHEL and Seller.
4. Packing shall be road / rail / air / sea worthy as applicable for adequate protection against transit damages.
5. **Delivery timings at BHEL stores(On all working days) :-**  
09.00 AM to 03.00 PM (Monday to Friday)  
09.00 AM to 11.00 AM (Saturday)  
Deliveries other than the timings indicated shall be done with prior permission from the purchase executive.
6. The invoice shall be in accordance with the PO duly supported with documents as called in the PO and shall contain the following details :-  
BHEL PO No and PO Item no., BHEL material code and description, Quantity, Vendor's name, Address.
7. The rates shall be as per applicable PO rates. Indicate the basic rate, duties & taxes as applicable along with Vendor TIN number (applicable for dispatches from within India).
8. For issue of "C" Forms duly filled up format as per **Annexure VIII** shall be sent to email id: **cform@bheledn.co.in**.
9. **Documents :-**  
Seller shall arrange to send the documents as applicable as per **Annexure IX** to the Purchaser, along with dispatch of goods. Any addition / exclusion to such documents shall be as specified in the Purchase Order.

**J. Information on Processing of Payment :-**

1. All direct payments will be made through Electronic Fund transfer (EFT). Vendor shall furnish e-payment particulars duly authenticated by their respective Bankers as per BHEL standard format (Refer **Annexure X**), if not registered with the purchaser earlier.
2. In case of High Sea Sales and Foreign Purchases, customs clearance of the consignment landed on Indian Sea / Air ports will be done by BHEL based on the original documents provided by Seller. All warehousing charges due to delay in submission of complete and or correct documents to BHEL may be charged to Seller's account.
3. Statutory deductions, if any, will be made and the deduction certificate shall be issued. In case Seller does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.
4. Bills/Invoices will be processed for payment only if they are complete in all respects, correct and supported with relevant documents as applicable. Any delays in this regard will result in consequent delays in payment.

## GENERAL CONDITIONS OF CONTRACT FOR PURCHASE

### 1. Applicable Conditions :-

These General Conditions of Contract for Purchase (GCP) apply to all enquiries, tenders, requests for quotations, orders and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliveries") to Bharat Heavy Electricals Limited, Electronics Division / Electronics Systems Division (hereinafter referred to as "BHEL" or the Purchaser) or its projects / customers. Any deviations from or additions to these 'General Conditions of Contract for Purchase' require Purchaser's express written consent. The general terms of business or sale of the Seller shall not apply to the Contract. Acceptance or receipt of shipments or services or effecting payment shall not mean that the general terms of business or sale of the Seller have been accepted by the Purchaser. Purchase orders, Orders, agreements and amendments thereto shall be binding if made or confirmed by the Purchaser in writing.

### 2. Definitions :-

Throughout these conditions and in the specifications, the following terms shall have the meanings as assigned hereunder, unless the subject matter or the context requires otherwise.

- a. **'Purchaser'** means Bharat Heavy Electricals Limited (a Central Public Sector Enterprise) incorporated under the Companies Act, 1956 having its registered office at BHEL House, Siri Fort, New Delhi-110049, India acting through its Unit Electronics Division / Electronics Systems Division at Bangalore and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- b. **'Seller'** means the person, firm, company or organization on whom the Purchase Order is placed and shall be deemed to include the seller's successors, permitted assigns, representatives, heirs, executors and administrators, as the case may be. It may also be referred to as Contractor, Supplier or Vendor.
- c. **'Contract'** shall mean and include the Purchase Order (also referred to as the "Order" or 'PO'), letter of intent (LOI) / letter of acceptance or award (LOA) along with tender / offer / bid submitted by the Seller, the General Conditions of Contract and Special Conditions of Contract for Purchase, Specifications, Inspection / Quality Plan, Schedule of Prices and Quantities, Drawings, if any enclosed or to be provided and the samples or patterns if any to be provided under the provisions of the Contract, by the Purchaser or his representative. Any conditions or terms stipulated by the tenderer / bidder in the tender / offer / bid or subsequent letters shall not form part of the Contract unless specifically accepted in writing by the Purchaser.
- d. **'Parties to the Contract'** shall mean the Seller and the Purchaser and Party shall mean either the Seller or the Purchaser.

### 3. Order of Precedence:-

In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI / LOA, specific agreement, Special Conditions of Contract and General Conditions of Contract for commercial conditions; and specific agreement on technical conditions, Special Technical Conditions and General Technical conditions, RFQ / Offer.

### 4. Interpretation :-

In the contract, except where the context requires otherwise:-

- a. words indicating one gender include all genders;
- b. words indicating the singular also include the plural and words indicating the plural also include the singular;
- c. provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d. "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

### 5. Ordering and Confirmation of Order :-

The Seller shall send the acceptance of the LOI / Purchase Order within two weeks or such other period as specified/agreed by BHEL from the date of LOI / Purchase Order. Purchaser reserves the right to revoke the order placed if the order acceptance differs from the original order placed. Purchaser shall only be bound after it has agreed explicitly in writing to be in agreement with the deviations. The acceptance of deliveries or supplies by Purchaser as well as payments made in this regard shall not imply acceptance of any deviations. The Purchase order will be deemed to have been accepted by the Seller, if no communication to the contrary is received within two weeks (or the time limit as specified / agreed by the Purchaser) of the receipt of the order.

### 6. Execution :-

The Seller shall execute the whole contract in the most approved, substantial and workman like manner as per the contracted terms. The Seller shall comply with all laws, ordinances, rules, and regulations bearing upon the performance of its obligations under the terms of the Contract.

### 7. Progress Reports and Documentation :-

After receipt of Purchase Order, seller should submit required documents like drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and / or any other relevant documents as per Specification / Purchase Order, as indicated in the Purchase order. At any stage within the contract period, the seller shall notify of any error, fault or other defect found in BHEL's documents / specifications or any other items for reference. If and to the extent that (taking account of cost and time) any seller exercising due care would have discovered the error, fault or other defect when examining the documents / specifications before submitting the tender, the time for completion shall not

be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the seller's documents, they shall be corrected at his cost, notwithstanding any consent or approval. The Seller shall submit periodic reports as to the progress in execution of the contract and in such form as may be called for by the Purchaser. The submission and acceptance of such reports shall not prejudice the rights of the Purchaser in any manner.

**8. Product Information, Drawings and Documents :-**

The Seller shall, as per agreed date / s but not later than the date of delivery, provide information and drawings which are necessary to permit the Purchaser to use, erect, commission, operate and maintain the product. Such information and drawings shall be supplied in the number of copies agreed upon.

**9. Non-disclosure and Information Obligations :-**

The Seller shall provide Purchaser with all information pertaining to the delivery in so far as it could be of importance to Purchaser. The Seller shall not reveal any confidential information (including price) in relation to the contract in general and those which it may acquire from the purchaser during the course of execution of the contract in particular, to its own employees not involved with the tender / Contract & its execution and delivery or to third parties, or make use of such information pertaining to any data, designs, drawings, specifications and other information furnished to it by the Purchaser, unless Seller seeks a permission to do so from the Purchaser and the Purchaser has agreed to this in writing beforehand. The Seller shall not be entitled to use the Purchaser's name in advertisements and other commercial publications without prior written permission from Purchaser.

**10. Intellectual Property Rights; Licenses :-**

If any patent design, trade mark, copyright, trade secret or any other intellectual property rights apply to the products / goods supplied, or delivery or accompanying documentation, Purchaser or its Customer shall be entitled to the legal use thereof free of charges by means of a non-exclusive, assignable, transferrable, sub-licensable, worldwide, perpetual license as duly granted by the owner or licensor of such right. All intellectual property rights that arise or developed during or due to the execution of the contract or delivery of the goods by the Seller and by its employees or third parties involved by the Seller for performance of the Contract belong to Purchaser. The Seller is obliged under the contract to do everything necessary to obtain or establish the above mentioned rights in favor of Purchaser. The Seller guarantees that the execution of the contract including goods and its delivery does not infringe any of the intellectual property rights of third parties. The Seller shall do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of such (alleged) claims by third parties, if any. The Seller agrees to indemnify, defend, and hold harmless Purchaser, its officers, employees, agents, representatives, successors, assigns, or any of the Purchaser's customers buying or using the goods or services, against any actual or alleged infringement of such intellectual property interests or claims by third parties in this regard and shall reimburse Purchaser for any liabilities, damages, penalties, injuries, claims, demands, actions, costs and expenses (including, without limitation, reasonable legal and other professional fees and expenses) suffered as a result thereof.

**11. Inspection and Testing :-**

Prior written notice of at least 10 days shall be given along with internal test certificates / COC and applicable test certificates. Materials will be inspected by BHEL-EDN-QS/CQS or BHEL nominated Third Party Inspection Agency (TPIA) or BHEL authorized Inspection Agency or Customer / Consultant or jointly by BHEL & Customer / consultant. All tests have to be conducted as applicable in line with approved Quality plan or QA Checklist or Purchase specification and original reports shall be furnished to BHEL for verification / acceptance for issue of dispatch clearance. All costs related to inspections & re-inspections shall be borne by vendor. Whether the Contract provides for tests on the premises of the vendor or any of his Sub-contractor/s, vendor shall be responsible to provide such assistance, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by BHEL only if specifically agreed to in the purchase order.

**12. Quality and Condition of the Delivery :-**

The Seller shall guarantee that the delivery:-

- a. Is of good quality and free from defects and in the case of services rendered that they are performed by skilled personnel and that new materials are used;
- b. corresponds exactly with the provisions of the Contract, the reasonable expectations of Purchaser regarding the characteristics, quality and reliability of the delivery;
- c. is suitable for the purpose for which it is intended by its very nature or which is evident from the specifications or the Contract;
- d. Complies with legal requirements applicable in India and other (international) Government regulations, as applicable.
- e. Complies with the customary norms and standards in the relevant branch of trade or industry.

The Seller shall be responsible for compliance with applicable technical, safety, quality, environmental requirements and other regulations in relation to its products, packaging, and raw and ancillary materials.

**13. Packaging and Dispatch :-**

The seller shall package the deliverables safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea / Air / Rail / Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures / hooks and sling marks as may be required for easy and safe handling by mechanical means. Each package must be marked with consignee name, P.O Number, BHEL material code, Package No., Gross weight & Net weight, Dimensions

(LxBxH) and seller's name. The packing shall allow for easy removal and checking of goods on receipt and comply with carrier's conditions of packing or established trade practices. **Packing list of goods inside each package with P.O item no. & Quantity must also be fixed securely outside the box to indicate the contents. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations.**

**14. Delivery :-**

Delivery shall be as per Purchase Order delivery terms. Trade terms such as DDL, FOR, EXW, FOB, CFR etc., if stipulated in the order shall be construed in accordance with the version of the INCOTERMS applicable at the time of ordering, without prejudice to the provisions contained in these conditions. The delivery date(s) or delivery period(s) as stipulated in the Contract shall be firm and binding and shall apply to the entire delivery for each PO item. Partial shipments may, however, be permitted by the purchaser.

**15. Penalty :-**

The time or period of delivery as stipulated in the schedule of delivery shall be deemed to be the essence of the contract. Should circumstances arise whereby the deadline for an agreed delivery date(s) or period(s) is expected to be exceeded, the seller shall inform purchaser hereof without delay. If delay in delivery is caused by any of the circumstances mentioned in clause 25 (Force Majeure) or which are caused exclusively by the acts of purchaser, the purchaser shall extend the time for delivery by a period which is reasonable having regard to all the circumstances in the case.

a. **For delay in documentation :-**

In the event of delay in submission of complete set of documents (like drawings, bill of materials, datasheets, catalogues, quality plan etc. as called in tender specifications including soft copies wherever applicable) in required sets beyond three weeks (or as agreed / indicated in the Purchase Order) from the date of Purchase Order, penalty at 0.5% (half percent) per week or part thereof, limited to a maximum of 5% (five percent) of the basic material value of the Purchase Order will be applicable.

b. **For delay in delivery :-**

In the event of delay in agreed contractual delivery as per Purchase Order, penalty @ 0.5% (half percent) per week or part thereof but limited to a max of 10% (ten percent) value of delayed portion (basic material cost) will be applicable. Delivery will commence from the date of document approval by customer / BHEL or date of issue of manufacturing clearance, whichever is later in cases where such approval/manufacturing clearance is applicable as per PO. Where pre shipment inspection is applicable, the date for which Inspection call is issued by vendor along with test certificates / test reports / Certificate of Conformance / calibration reports, as proof of completion of manufacturing will be treated as date of deemed delivery for penalty calculation. In the absence of furnishing such document indicated above as proof of completion of manufacturing along with inspection call, actual date of inspection will be considered as date of deemed delivery and BHEL will not be responsible for delay in actual date of inspection.

Penalty for delayed documentation/delayed delivery, if applicable, shall be deducted at the time of first payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted.

Imposition, recovery or settlement of this penalty shall not affect any rights of the purchaser to claim enforcement of specific performance of the contract, compensation and/or to terminate the contract.

**16. Assignment of Rights & Obligations; Subcontracting:**

Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.

**17. Transfer of Ownership, title and Risk :-**

The risk for the delivery remains with the Seller until the goods are delivered at the agreed place and acknowledged by the Purchaser/his authorized representative.

**18. Price, Invoicing and Payment :-**

The agreed prices are fixed prices in the currency as specified in the Purchase Order. They shall include packing, forwarding, loading and carriage to the place specified by the Purchaser and are inclusive of all applicable taxes, duties etc. except for those specifically agreed between the Seller and Purchaser. Further, Seller shall indemnify and hold harmless Purchaser from all claims and liabilities, damages, penalties, injuries, claims, demands, actions, costs and expenses (including, without limitation, reasonable legal and other professional fees and expenses) arising from Seller's failure to report or pay any taxes, tariffs or duties for which Seller is responsible. The method of invoicing shall be without prejudice to the parties' agreement as to the place of performance. Indian Agent's commission if payable and so specified in the Purchase Order shall be paid in Indian Rupees, considering the SBI TT selling exchange rate prevailing on the date of Purchase Order, after successful completion of the contract. If so stipulated in the order, the Seller shall furnish, on receipt of the Purchase Order or along with order acknowledgement, the Billing break-up of prices (BBU) for approval by the Purchaser in respect of the major items / components going into the equipment. This BBU is required by the Purchaser for admitting the claims of the Seller if part shipments are contemplated and also to facilitate custom clearance after payment of applicable duties in case of imports. Purchaser shall be entitled to suspend payment for as long as required supporting documents / details remain outstanding and any consequential demurrage / wharfage shall be to the account of the Seller. Payment does not imply in

any respect whatsoever a waiver of Purchaser's right to performance of the Contract. Purchaser is entitled to set off claimable debts against claimable liabilities with the Seller by means of a set off note.

**19. Contract Variations; Increase or Decrease in the Scope of Supply :-**

The purchaser may vary the contracted quantities during execution, due to exigencies of project requirements with mutual consent of the seller.

**20. Guarantee / Warranty :-**

Wherever required, and so provided in the specifications / Purchaser Order, the Seller shall guarantee that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance. If within the guarantee period, the delivery is found to be non-compliant including those with the stipulations in Clause 12 (Quality and Condition of Delivery) of these Conditions, the Seller shall, for its own account, replace, repair, or re-execute the delivery at Purchaser's discretion when first requested to do so within two weeks or mutually agreed period, without prejudice to Purchaser's other legal rights. If the Seller continues to default on its obligations, Purchaser has the right to proceed to replace, repair or re-execute the order at the Seller's expense, with or without help from third parties. Purchaser shall notify the Seller of the exercise of this right in advance where possible. Unless otherwise specified, guarantee period shall be minimum 12 months from the date of commissioning or 18 months from the date of supply whichever is earlier. The guarantee period shall be extended by the period during which the goods are not in compliance with the stipulations in Clause 12 (Quality and Condition of Delivery). A guarantee period as described above shall apply afresh to replaced, repaired or re executed parts of a delivery. The decision of the Purchaser in regard to the Seller's liability under this clause shall be conclusive. This clause shall survive termination / completion of contract.

**21. Shortages / Replacements :-**

In the event of shortage on receipt of goods and / or on opening of packages at BHEL, all such shortages shall be made good within a reasonable time that BHEL may allow from such intimation and free of cost.

**22. Transit Damages :-**

In the event of receipt of goods in damaged condition or having found them so upon opening of packages at BHEL Supplier shall make good of all such damages within a reasonable time from such intimation by BHEL. In case BHEL raises an insurance claim, the cost of material limited to insurance settled amount less handling charges will be reimbursed.

**23. Rejection / Replacement :-**

The Seller shall arrange replacement / repair under its obligation under the contract within two weeks from the date of intimation or mutually agreed period. The rejected goods shall be taken away by the Seller and replaced on DDP (Delivered duty Paid)/ FOR - BHEL Stores / designated destination basis within such period. In the event of the Seller's failure to comply, Purchaser may take appropriate action including disposal of rejections and replacements, at the cost and risk of the Seller. In case defects attributable to Seller are detected during processing of the goods at purchaser's / his subcontractor works, the Seller shall be responsible for replacement / repair of the goods as required by the Purchaser at Seller's cost. In such cases expiry of guarantee/warranty will not be applicable.

**24. Cancellation / Termination of Contract and Risk Purchase :-**

- a. Purchaser shall have the right to completely or partially terminate the Contract by means of written notice to that effect without prejudicing its other rights and remedies, in an event of default by the Seller :-

**Events of default :-**

- (i) The Seller fails to perform within the time specified in the Contract or any extension thereof;
- (ii) The Seller defaults on one or more of the obligations or program of work as contained in the Contract.
- (iii) The Seller is declared bankrupt or insolvent or is ordered to be wound up, its business has been shut down or liquidated, a substantial part of its assets have been attached, or the business has been transferred to a third party. In case of partnership firm any dissolution of partnership shall be also considered as an event of default.
- (iv) Any misrepresentation or hiding of material fact if detected at a later stage
- (v) The delivery is rejected after inspection or re-inspection.
- (vi) Export license not granted to Seller by the concerned Government.
- (vii) Incapacity of seller for any other reason to deliver or perform the contract.

BHEL shall have the right to cancel / foreclose the Order / Contract, wholly or in part, in case it is constrained to do so, on account of any decline, diminution, curtailment or stoppage of the business. In the event of termination, the risk and liability attached to the items already delivered but not of use to Purchaser, as determined by Purchaser, remains with the Seller. Such items shall then be at the Seller's disposal and they are to be collected or removed by the Seller. The Seller shall immediately refund any payments in respect of such items if already made by the Purchaser before the termination, and in any case not later than 30 days.

- b. In the event of termination due to reasons or defaults by the Seller, the Purchaser may at his option procure from any source, on such terms and in such manner as he deems appropriate, goods not delivered or others of similar description where goods exactly complying are not readily procurable, in the opinion of the Purchaser, which opinion shall be final, at the risk and cost of the Seller and the Seller shall be liable to the Purchaser for any risks and excess cost. The cost of purchases made by the Purchaser at the risk and cost of the Seller shall be worked out after loading 10% overhead / handling charges on the cost of materials and related services procured from alternate source / s. Provided, however, that the Seller shall continue the performance of the Contract to the extent not cancelled or terminated under the provisions of this clause. The Seller shall on no account be entitled to any gain on such re-

purchases by the Purchaser.

- c. Termination of the Contract, from whatever cause arising, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination.

**25. Force Majeure :-**

Notwithstanding anything contained in the purchase order or any other document relevant thereto, neither party shall be liable for any failure or delay in performance to the extent said failures or delays are caused by the "Act of God" and occurring without its fault or negligence, provided that, force majeure will apply only if the failure to perform could not be avoided by the exercise of due care and vendor doing everything reasonably possible to resume its performance. A party affected by an event of force majeure shall give the other party written notice, with full details as soon as possible and in any event not later than three (3) calendar days of the occurrence of the cause relied upon. If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.. Notwithstanding above provisions, Purchaser shall reserve the right to cancel the order / Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of deliveries and other schedules. Purchaser may takeover partly processed material at a mutually agreed price.

**26. Indemnification :-**

Vendor is fully responsible for ensuring that all legal compliances and safety guidelines are followed in course of the contract. Notwithstanding any other clause herein to the contrary, the Seller shall indemnify, hold and save harmless, and defend, at its own expense, the Purchaser, its officials, agents, servants and employees from and against all suits, claims, demands, and liability of any nature or kind, including their costs and expenses, arising out of acts or omissions of the Seller, or the Seller's employees, officers, agents or sub-contractors, in the performance of this Contract. This provision shall extend, inter alia, to claims and liability in the nature of employee's compensation and products liability. The obligations under this clause do not lapse upon termination of this Contract.

**27. Non-waiver of Defaults :-**

If any individual provision of the Contract is invalid, the other provisions shall not be affected.

The failure of Purchaser,

- a. To enforce any of the terms and conditions of the Contract.

Or

- b. To exercise any right or privilege granted to Purchaser.

Under the Contract or under law shall not release the Seller from any of the warranties or obligations under the Contract and shall not be construed as a waiver thereof and the same shall continue in full force and effect.

**28. Limitation of Liability :-**

Vendor's liability towards this contract is limited to a maximum of 100% of the contract value and consequential damages are excluded. However the limits of liability will have no effect in cases of criminal negligence or willful misconduct. The total liability of Vendor for all claims arising out of or relating to the performance or breach of the Contract or use of any Products or Services or any order shall not exceed the total Contract price.

**29. Settlement of Disputes :-**

Except as otherwise specifically provided in the Purchase Order, decision of BHEL shall be binding on the vendor with respect to all questions relating to the interpretation or meaning of the terms and conditions and instructions herein before mentioned and as to the completion of supplies / work / services, other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, instructions, orders or these conditions or otherwise concerning the supply or the execution or failure to execute the order, whether arising during the schedule of supply / work or after the completion or abandonment thereof. Any disputes or differences among the parties shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration. Vendor shall continue to perform the contract, pending settlement of dispute(s).

**30. Arbitration Clause :-**

In case amicable settlement is not reached in the event of any dispute or difference arising out of the execution of the Contract or the respective rights and liabilities of the parties or in relation to interpretation of any provision in any manner touching upon the Contract, such dispute or difference shall (except as to any matters, the decision of which is specifically provided for therein) be referred by either party to the sole arbitration of an Arbitrator appointed by the Unit head of Electronics division of BHEL. Vendor shall have no objection even if the Arbitrator so appointed is an employee of BHEL or has ever dealt / had to deal with any matter relating to this Contract. Subject as aforesaid the provisions of the Arbitration and Conciliation Act, 1996 of India or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. It is a term of contract that the party initiating arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute. The venue for the arbitration shall be Bangalore, India. The award of the arbitrator shall be a speaking award and shall be final, conclusive and binding on all parties to this contract.

- a. The cost of Arbitration shall be borne equally by the parties.

- b. Notwithstanding the existence of any dispute or difference or any reference for the arbitration, the Seller shall proceed with and continue without hindrance the performance of the work under the Contract with due diligence and expedition in a professional manner.



**31. Applicable Laws and Jurisdiction of Courts :-**

The Contract shall be governed by the substantive laws of India. This contract shall be construed and interpreted in accordance with the laws of India and shall have exclusive jurisdiction of courts in Bangalore, Karnataka State, India.

**32. General Terms:**

That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents. That the headings used in this agreement are for convenience of reference only. That all notices etc., to be given under the Purchase order shall be in writing, type script or printed and if sent by registered post or by courier service to the address given in this document shall be deemed to have been served on the date when in the ordinary course, they would have been delivered to the addressee.

## ANNEXURE – I

### PROVISIONS APPLICABLE FOR MSE VENDORS (MICRO AND SMALL ENTERPRISES) :-

Vendors who qualify as MSE vendors are requested to submit applicable certificates (as specified by the Ministry of Micro, Small and Medium Enterprises) at the time of vendor registration. Vendors can also submit these documents along with the tender documents in the Part I / Technical bid cover.

- a. Valid NSIC certificate **OR**
- b. Entrepreneur's Memorandum part II (EM II) certificate (deemed valid for 2 years)
- c. EM II certificate with CA certificate **(in the prescribed format given in Pg.2)** applicable for the year certifying that the investment in plant and machinery of the vendor is within permissible limits as per the MSME Act 2006 for relevant status where the deemed validity is over.

### Notes :

- 1) Notary certified copy of the applicable certificate as per (a) or (b) shall be submitted.
- 2) Documents submitted for establishing the credentials of MSE vendors must be valid as on the date of part I / technical bid opening for the vendors to be eligible for the benefits applicable for MSE vendors. Documents submitted after the Part I / Technical bid opening date will not be considered for this tender. BHEL will not be responsible for any postal / courier / deliver delay and the status as available on the date of Part I or Technical bid opening will be used for reckoning the MSE status of the vendor.



**Certificate by Chartered Accountant on Letter Head**

This is to certify that M/s .....  
.....(Hereinafter referred to as 'Company') having its  
registered office at ..... is registered under MSMED Act 2006, (Entrepreneur  
Memorandum No ((Part-II) ..... dtd ..... Category: .....  
(Micro/Small). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as on  
date..... **as per MSMED Act 2006 is as follows:**

- 1. **For Manufacturing Enterprises:** Investment in plant and machinery ( i.e., original cost excluding land and building and the items specified by the Ministry of Small Industries vide its notification No.S.O.1722 (E) dated October 5, 2006:  
Rs. ....Lacs.
- 2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:  
Rs. ....Lacs.

The above investment of Rs. .... Lacs in within permissible limit of  
Rs..... Lacs for.....Micro / Small (Strike off which is not applicable )  
Category under MSMED Act 2006.

Date:

(Signature)

Name -

Membership Number -

Seal of Chartered Accountant

**ANNEXURE-II**

**LIST OF INTERNATIONAL GATEWAY AIRPORTS**

SCHEDULE NO	COUNTRY	CURRENCY CODE	AIRPORT
D01	UK	GBP	LONDON (HEATHROW)
D02	UK	GBP	NEW CASTLE
D03	UK	GBP	OXFORD. CHETLAM
D04	UK	GBP	BRISTOL. WELLINGBOROUGH
D05	UK	GBP	BIRMINGHAM
D06	UK	GBP	EAST MIDLANDS
D07	UK	GBP	MANCHESTER
D08	UK	GBP	LEEDS
D09	UK	GBP	GLASGOW
D10	FRANCE	EURO	PARIS (ROISSY) & LYON
D11	SWEDEN	EURO	STOCKHOLM
D12	SWEDEN	EURO	GOTHENBERG & MALMO
D13	ITALY	EURO	ROMA, MILAN
D14	ITALY	EURO	TURIN, BOLOGNA, FLORENCE
D15	NETHERLANDS	EURO	AMSTERDAM, ROTTERDAM
D16	AUSTRIA	EURO	VIENNA, LINZ, GRAZ
D17	BELGIUM	EURO	ANTWERP, BRUSSELS
D18	DENMARK	DKK	COPENHAGEN
D19	JAPAN	JPY	TOKYO, OSAKA
D20	SINGAPORE	SGD	SINGAPORE
D21	CANADA	CAD	TORONTO
D22	CANADA	CAD	MONTREAL
D23	USA	USD	NEW YORK, BOSTON
D24	USA	USD	CHICAGO
D25	USA	USD	SAN FRANCISCO, LOS ANGELES
D26	USA	USD	ALANTA, HOUSTON
D27	GERMANY	EURO	MUNICH, KOLN, DUSSELDORF, HANNOVER, HAMBURG, STUTTGART, DAMSTADT, MANIHIEM, NURUMBERG
D28	GERMANY	EURO	FRANKFURT
D29	GERMANY	EURO	BERLIN
D30	SWITZERLAND	SFR	BASLE, ZURICH, GENEVA
D31	SPAIN	EURO	BARCELONA
D32	AUSTRALIA	AUD	SYDNEY
D33	AUSTRALIA	AUD	MELBOURNE
D34	AUSTRALIA	AUD	PERTH
D35	CZECH	EURO	PRAGUE
D36	HONG KONG	HKD	HONG KONG
D37	NEW ZELAND	NZD	AUCKLAND



D38	RUSSIA	USD	MOSCOW
D39	SOUTH KOREA	USD	KIMPO INTERNATIONAL, INCHEON
D40	FINLAND	EURO	HELSINKI
D41	ROMANIA	EURO	BUCHAREST
D42	NORWAY	EURO	OSLO
D43	IRELAND	EURO	DUBLIN
D44	ISRAEL	USD	TEL AVIV
D45	UAE	USD	DUBAI
D46	OMAN	USD	MUSCAT
D47	EGYPT	USD	CAIRO
D48	TAIWAN	USD	TAIPEI
D49	UKRAINE	USD	KIEV
D50	CHINA	USD	SHANGHAI, SHENZHEN
D51	PHILIPINES	USD	MANILA
D52	MALAYSIA	USD	KUALALUMPUR, PE NANG
D53	CYPRUS	USD	LARNACA
D54	SOUTH AFRICA	USD	JOHANNESBERG, DURBAN
D55	SLOVAKIA	EURO	BARTISLOVA
D56	SAUDI ARABIA	SAR	RIYADH
D57	TURKEY	EURO	ISTANBUL
D58	THAILAND	USD	BANGKOK
D59	BRAZIL	USD	SAO PAULO, RIO DE JANEIRO

**ANNEXURE-III****LIST OF CONSORTIUM BANKS****BANK GUARANTEE (BG) SHALL BE ISSUED FROM THE FOLLOWING BANKS ONLY:**

	<b>Nationalized Banks</b>		<b>Nationalized Banks</b>
1	Allahabad Bank	19	Vijaya Bank
2	Andhra Bank		<b>Public Sector Banks</b>
3	Bank of Baroda	20	IDBI
4	Canara Bank		<b>Foreign Banks</b>
5	Corporation Bank	21	CITI Bank N.A
6	Central Bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hong Kong and Shanghai Banking Corporation Ltd. (HSBC)
8	Indian Overseas Bank	24	Standard Chartered Bank
9	Oriental Bank of Commerce	25	The Royal Bank of Scotland N.V.
10	Punjab National Bank	26	J P Morgan
11	Punjab & Sindh Bank		<b>Private Banks</b>
12	State Bank of India	27	Axis Bank
13	State Bank of Hyderabad	28	The Federal Bank Limited
14	Syndicate Bank	29	HDFC Bank
15	State Bank of Travancore	30	Kotak Mahindra Bank Ltd
16	UCO Bank	31	ICICI Bank
17	Union Bank of India	32	IndusInd Bank
18	United Bank of India	33	Yes Bank

**Note:**

- BG should be directly sent to BHEL by the issuing Bank along with covering letter.
- All BGs must be issued from BHEL consortium banks listed above.
- BHEL may accept BG from other Public Sector Banks also which are not listed above.
- BG will not be accepted from Scheduled Banks and Co-operative Banks ( other than listed above ).
- In case BG is issued from a bank located outside Indian Territory and is issued in foreign currency, the BG must be routed through and confirmed by any one of the above mentioned consortium banks.
- This list is subject to changes. Hence vendors are requested to check this list every time before issuing BGs.



**ANNEXURE IV**

**BANK GUARANTEE FOR SECURITY DEPOSIT (PROFORMA)**

In consideration of the Bharat Heavy Electricals Limited, having its registered office at BHEL House, Siri Fort, New Delhi – 110 049 the concerned division being (indicate name of the concerned division of BHEL) (hereinafter called BHEL).

having agreed to exempt ..... (hereinafter called “the said Contractor(s)” from the demand, under terms and conditions of agreement dated ..... made between BHEL and ..... for..... (hereinafter called “the said Agreement) of security deposit for the due fulfillment by said contractors of the terms and condition contained in the said agreement, on production of bank guarantee for Rs. ....

(Rupees ..... only)

We ..... (hereinafter referred to as “the Bank”) at the request of (indicate the name of Bank)

contractor(s) do hereby undertake to pay to BHEL an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by BHEL, by reason of any breach by the said contractor(s) of any of the terms or conditions contained in the said Agreement.

2. We ..... do hereby undertake to pay the (indicate the name of Bank)

amounts due and payable under this guarantee without any demur, merely on a demand from BHEL stating that the amount claimed is due by way of loss or damage caused to or would to or suffered by BHEL by reason of breach by the said contractor(s) of any of the terms and conditions contained in the said Agreement or by reason of the contractor(s) failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....

3. We .....undertake to pay to BHEL any money so demanded notwithstanding (indicate the name of Bank)

any dispute or disputes raised by contractor (s) supplier(s) in any suit or processing pending before any court or tribunal relating thereto our liability under these presents being absolute and unequivocal. The payment so made by under this bond shall be valid discharge of our liability for payment thereunder and the contractor(s) shall have no claim against us for making such payment.

4. .... further agree that the guarantee herein (indicate the name of Bank) contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and the it shall continue to be enforceable till all the dues of BHEL under or by virtue of the said Agreement have been fully paid and its Agreement have been fully and properly carried out by the said contractor(s) and accordingly discharge this guarantee unless a demand or claim under this guarantee is made on us in writing on or before ..... we shall be discharged form all liability under this guarantee thereafter.



i. We .....further agree with BHEL that BHEL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said Agreement or to extend tim of performance by the said contractor(s) from time to time or to postpone any time or from time to time any of the powers exercisable by the BHEL against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reasons of any such variation, of extension being granted to the said Contractor(s) or for any forbearance, act, or commission on the part of BHEL or any indulgence BHEL to the said Conference(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for its provisions, have effect of so relieving us.

ii. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s) / Supplier(s)

iii. We ..... lastly undertake not to revoke this  
(Indicate the name of Bank)

guarantee during its currency except with the previous consent of BHEL in writing.

iv. The address of BHEL of services, correspondence in respect of matters relating to this guarantee shall be :

ADDRESS OF THE CONCERNED DIVISION OF BHEL.

Address of the Bank in full

Dated the ..... Day of .....

Pin Code :

Telegraphic Code :

For

(Indicate the name of the Bank)

Telex No:

Fax No.:

Witness:

1.

2.

## **ANNEXURE- V**

### **GUIDELINES FOR REVERSE AUCTION PROCEDURE**

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit “online sealed bid” in the Reverse Auction. Non-submission of “online sealed bid” by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at “Total Cost to BHEL” like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL’s standard practice.
12. Bidders shall be required to read the “Terms and Conditions” section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the “Business Rules of Reverse Auction”, which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.



### **Business Rules for Reverse Auction**

This has reference to tender no **{tender number....date...}**. BHEL shall finalize the Rates for the supply of **{item name}** through Reverse Auction mode. BHEL has made arrangement with M/s. **{Service provider}**, who shall be BHEL's authorized service provider for the same. Bidders should please go through the guidelines given below and submit acceptance of the same.

The technical & commercial terms are as per (a) BHEL Tender Enq. No. **{...}** dated **{...}**, (b) Bidders' technical & commercial bid (in case of two part bid) and (c) subsequent correspondences between BHEL and the bidders, if any.

**1. Schedule for reverse auction:** The Reverse Auction is tentatively scheduled on **{date}**:

- **Online Sealed Bid:-**

☐ **{Start Time:**

☐ **Close Time: }**

- **Online Reverse Auction:-**

☐ **{Start Time:**

☐ **Close Time:}**

**2. Auction extension time:** If a bidder places a bid in the last **{...}** minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another **{...}** minutes, for the entire auction (i.e. for all the items in the auction), from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last **{...}** minutes and if that bid gets accepted as the lowest bid. If the bid does not get accepted as the lowest bid, the auto-extension will not take place even if that bid might have come in the last **{...}** minutes. In case, there is no bid in the last **{...}** minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, bidders are advised not to wait till the last minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

The above process will continue till completion of Reverse Auction.

Complaints/ Grievances, if any, regarding denial of service or any related issue should be given in writing thru e-mail/ fax to M/s. **{Service provider}** with a copy to BHEL within 15 minutes from the initial closing time of Online Reverse Auction.

**3. Bid price:** The Bidder has to quote the F.O.R. destination Price inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, ED + cess, CST against C-form, Freight (bidder to provide original Freight paid receipt), insurance charges, etc. including loading (if indicated by BHEL due to deviations in commercial terms) for the Items specified. Details are as shown in Excel Sheet for calculation of Landed cost.

Note: For the consideration of L1 bidder, the bid value shall be reduced by loading amount, if applicable.

**4. Bidding currency and unit of measurement:** Bidding will be conducted in **{Indian Rupees per Unit}** of the material as per the specifications **{...}**

In case of foreign currency bids, exchange rate (TT selling rate of State Bank of India) as on scheduled date of tender opening (Part-I bid in case of two part bid) shall be considered for conversion in Indian Rupees.

**5. Validity of bids:** Price shall be valid for **{... days}** from the date of reverse auction. These shall not be subjected to any change whatsoever.

**6. Lowest bid of a bidder:** In case the bidder submits more than one bid, the lowest bid at the end of Online Reverse Auction will be considered as the bidder's final offer to execute the work.

**7. Post auction procedure:** BHEL will proceed with the Lowest Bid in the Reverse Auction for further processing.

**8. Procedure of Reverse Auctioning :**

i. **Online Sealed Bid:** This duration of online sealed bid will be **{...}** minutes. All bidders to submit their online sealed bids during this period.

- ii. **Online Reverse Auction:** The „opening price“ i.e. start price for RA and „bid decrement“ will be decided by BHEL.
- iii. If BHEL decides the lowest online sealed bid as the starting price, then the lowest bidder in online sealed bid shall be shown as current L1 automatically by the system and no acceptance of that price is required. System shall have the provision to indicate this bid as current L1.
- iv. Bidders by offering a minimum bid decrement or the multiples thereof can displace a standing lowest bid and become “L1” and this continues as an iterative process.
- v. After the completion of the online reverse auction, the Closing Price (CP) shall be available for further processing.

**9.** If no bid is received in the auction system/ website within the specified time duration of the online RA, then BHEL will scrap the online reverse auction process and proceed with the conventional mode of tendering (opening of the envelope sealed bids earlier submitted by the bidders).

In cases where no bidder accepts the start price, the RA may be treated as failed and sealed envelope price bids of all the techno-commercially qualified bidders shall be opened and the tender processed accordingly. Wherever the techno-commercially acceptable bidder(s) had agreed to participate in the RA and had failed to submit the online sealed bid, the envelope sealed bids of such bidder(s) shall not be entertained.

Wherever, the evaluation is done for individual items of the package, and no bid is received for some of the item(s), RA will be considered as failed for these item(s), re-reverse auction/ retendering will be conducted for these items.

**10.** Only those bidders who have submitted the „online sealed bid“ within the scheduled time shall be eligible to participate further in RA process. However, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

**11.** Any commercial/ technical loading shall be intimated to bidders prior to RA. The excel sheet provided in this regard shall cover all these aspects. Commercial/ technical loading if any, shall be added by the respective bidder in its price during online sealed bid & Online Reverse Auction. Modalities of loading & de-loading shall be separately intimated to the bidders.

**12.** Computerized reverse auction shall be conducted by BHEL (through M/s {*Service Provider*}), on pre-specified date, while the bidders shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.

During the RA if a bidder is not able to bid and requests for extension of time by fax/ e-mail/ phone then time extension of additional 15 minutes will be given by the service provider provided such requests come before 5 minutes of auction closing time. However, only one such request per bidder can be entertained.

Despite this extension if bidder fails to upload his prices due to extreme case of failure of Internet connectivity, (due to any reason whatsoever may be) it is the bidders“ responsibility/ decision to send fax communication immediately to M/s. {*Service provider*}, furnishing the price the bidder wants to bid online with a request to the service provider to upload the faxed price on line so that the service provider will up load that price on line on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by the service provider in a readable/ legible form and also the Bidder should simultaneously check up with service provider about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be up loaded by the service provider only within the closure of Bid time and under no circumstance it shall be allowed beyond the closure of Bid time /reverse auction. It shall also be noted that the service provider should be given a reasonable required time by the bidders, to upload such prices online and if such required time is not available at the disposal of the Service provider at the time of receipt of the fax message from the bidders, the service provider will not be uploading the prices and either BHEL or the service provider are not responsible for this unforeseen circumstances. In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power or loss of connectivity at the premises of bidders during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor M/s. {*Service provider*} is responsible for such eventualities.

**13. Proxy bids:** Proxy bidding feature is a pro-bidder feature to safe guard the bidder's interest of any internet failure or to avoid last minute rush. The proxy feature allows bidders to place an automated bid in the system directly in an auction and bid without having to enter a new amount each time a competing bidder submits a new offer. The bid amount that a bidder enters is the minimum that the bidder is willing to offer. Here the software bids on behalf of the bidder. This obviates the need for the bidder participating in the bidding process until the proxy bid amount is decrementally reached by other bidders. When proxy bid amount is reached, the bidder (who has submitted the proxy bid) has an option to start participating in the bidding process. The proxy amount is the minimum amount that the bidder is willing to offer. During the course of bidding, the bidder cannot delete or change the amount of a proxy bid. Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing bidder bids, regardless of the fact whether the competing bids are submitted as proxy or standard bids. However, it may please be noted that if a manual bid and proxy bid are submitted at the same instant manual bid will be recognized as the L1 at that instant. In case of more than one proxy bid, the system shall bid till it crosses the threshold value of „each lowest proxy bid“ and thereafter allow the competition to decide the final L1 price. Proxy bids are fed into the system directly by the respective bidders. As such this information is privy only to the respective bidder(s).

**14.** Bidders are advised to get fully trained and clear all their doubts such as refreshing of Screen, quantity being auctioned, tender value being auctioned etc.

**15.** M/s. {Service provider}, shall arrange to demonstrate/ train the bidder or bidder's nominated person(s), without any cost to bidders. M/s. {Service provider}, shall also explain the bidders, all the rules related to the Reverse Auction/ Business Rules Document to be adopted along with bid manual. Bidders are required to give their compliance on it before start of bid process.

**16.** Successful bidder shall be required to submit the final prices, quoted during the Online Reverse Auction in Annexure - VII after the completion of auction to M/s. Service provider besides BHEL, duly signed and stamped as token of acceptance without any new condition other than those already agreed to before start of auction.

**17.** Any variation between the final bid value and that in the confirmatory signed price breakup document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines in vogue.

**18.** Bidders' bid will be taken as an offer to execute the work/ supplies the item as per enquiry no. {...} dt. {...}. Bids once made by the bidder, cannot be cancelled/ withdrawn and bidder shall be bound to execute the work as mentioned above at bidder's final bid price. Should bidder back out and not execute the contract as per the rates quoted, BHEL shall take action as per extant guidelines in vogue.

**19.** Bidders shall be assigned a **Unique User Name & Password** by BHEL or M/s. {Service provider}. Bidders are advised to change the Password and edit the information in the Registration Page after the receipt of initial Password from BHEL/ M/s. {Service provider} to ensure confidentiality. All bids made from the Login ID given to the bidders will be deemed to have been made by the bidders/ bidders' company.

**20.** Bidders shall be able to view the following on their screen along with the necessary fields during Online Reverse Auction:

- a. Leading (Running Lowest) Bid in the Auction (only total price of package)
- b. Bid Placed by the bidder
- c. Start Price
- d. Decrement value

**21.** After receipt of the system report from the Service Provider after completion of the Online Reverse Auction, BHEL will decide upon the winner. BHEL's decision on award of contract shall be final and binding on all the Bidders.



**22.** BHEL reserves the right to cancel the Reverse Auction process/ tender at any time, before ordering, without assigning any reason.

**23.** BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause. In such cases, the decision of BHEL shall be binding on the bidders.

**24.** Other terms and conditions shall be as per bidder's techno-commercial offers and other correspondences, if any, till date.

**25.** Bidders are required to submit their acceptance to the terms/ conditions/ modalities before participating in the Reverse Auction in the process compliance Form as per *Pg.6 of Annexure V*

**26.** BHEL can decide to extend, reschedule or cancel any Auction with prior intimation to all bidders.

**27.** If there is any clash between this business document and the FAQ available, if any, in the web site of M/s. {*Service provider*} the terms& conditions given in this business document will supercede the information contained in the FAQs. Any changes made by BHEL/ service provider (due to unforeseen contingencies) after the first posting shall be deemed to have been accepted if the bidder continues to access the portal after that time.



**Process Compliance Form**

**(The bidders are required to print this on their company's letterhead and sign, stamp before faxing)**

To

- M/s. {Service provider
- Postal address}

**Sub: Agreement to the Process related Terms and Conditions**

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the RFQ document for {Items} against BHEL enquiry/ RFQ no.{.....} dt. {.....}

This letter is to confirm that:

- 1) The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
- 2) We have studied the Reverse Auction Terms & Conditions and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- 4) We also confirm that, in case we become L1 bidder, we will email/ fax the price confirmation & break up of our quoted price (including that of line items) as per *pg.7 of Annexure- V* within **two** working days (of BHEL) after completion of RA event, besides sending the same by registered post/ courier both to M/s. BHEL and M/s. {Service provider.}

We, hereby confirm that we will honor the Bids placed by us during the auction process.

With regards

Signature with company seal

Name –

Company / Organization

Designation within Company / Organization

Address of Company / Organization

- Sign this document and Fax it to M/s {Service provider} at {.....} prior to start of the Event.

- Attach a signed copy of the RFQ document along with the Agreement Form/ Process Compliance form and d/s{Service provider}



**RA price confirmation and breakup**

**To**

- **M/s. Service provider**
- **Postal address**

CC: M/s BHEL

{Unit-  
Address-}

Sub: **Final price quoted during Reverse Auction and price breakup**

Dear Sir,

We confirm that we have quoted.

**Rs.{\_\_\_\_\_} for item covered under tender enquiry No. {...} dt.{...}**

Total price of the items covered under above cited enquiries is inclusive of {Packing & forwarding, E.D., C.S.T., freight and insurance charges upto {.....} District,{.....} State and Type Test Charges etc., (exclusive of service tax), other as per NIT} as our final landed prices as quoted during the Reverse Auction conducted today {date} which will be valid for a period of {\_\_\_\_\_} days.

The price break-up including that of line items is as given below.

Total - Rs.

Thanking you and looking forward to the valuable order from BHEL.

Yours sincerely,

For \_\_\_\_\_

**Name:**  
**Company:**  
**Date:**  
**Seal:**

## **ANNEXURE- VI**

### **EXTRACT FROM “MANUAL ON POLICIES & PROCEDURES FOR PURCHASE OF GOODS”**

#### **11.2.3. Non-conformities between the figures and words of the quoted prices:**

Sometimes, non-conformities/errors are also observed between the quoted prices in figures and that in words. The same is to be taken care of as indicated below:

(a) If, in the price structure quoted for the required goods, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.

(b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

If there is such discrepancy in an offer, the same is to be conveyed to the bidder with target date on the above lines and if the bidder does not agree to the observation of the purchaser, the offer is liable to be ignored.

## **ANNEXURE – VII**

### **PURCHASE PREFERENCE FOR MSE VENDORS:**

1. MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply a portion of the tendered quantity up to a total of 20% by matching their price with the L1 price, in a situation where L1 price is from other than MSE vendor.  
In case more than one MSE vendors are in the price band of L1 + 15% and match the L1 price, the supply up to a total of 20% shall be shared proportionately.
2. Preference for MSEs owned by Scheduled Castes or Scheduled Tribes – 20% from the 20% quantity (i.e. 4% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. In event of failure of such MSE to participate in tender process or meet tender requirements and L1 price, 4% quantity for MSEs owned by SC/ST entrepreneur's shall be met from other MSEs meeting the criteria (1) & above .



**ANNEXURE – VIII**  
**REQUEST FOR C FORM**

NAME OF VENDOR :-										
VENDOR CODE ALLOTTED BY BHEL :-										
BHEL PONO	NVOICE NO	INVOICE DATE	INVOICE AMOUNT	SUPPLY FROM - STATE	SUPPLY TO - STATE	CST TIN NUMBER FOR THE SUPPLY	INVOICE AMOUNT BAISC+ED+CST ONLY	C FORM QTR	YEAR	SUPPLY TO BHEL EDN / SITE

**ANNEXURE – IX**

**LIST OF DOCUMENTS TO BE SUBMITTED DURING DESPATCH OF GOODS :-**

Seller shall arrange to send the following documents to the Purchaser, immediately on dispatch of goods: Any addition / exclusion to such documents shall be as specified in the Purchase Order.

**For despatches from within India :-**

To be sent with the material			To be sent to purchase executive		
1	Delivery challan	(1 copy)	1	Commercial invoice	(1 original +1 extra copy)
2	Excise gate pass (if excise duty is applicable) duplicate for transporter	(1 copy)	2	Excise gate pass (if excise duty is applicable) original for buyer	(1 copy)
3	Transporters docket if received through transporter	(1 copy)	3	Inspection report / Test report Test certificate (if called for in the PO )	(1 copy)
4	Inspection report / Test report Test certificate (if called for in the PO )	(1 copy)	4	Warranty certificate(if called for in the PO )	(1 copy)

**For despatches from outside India :-**

To be given to BHEL Freight Forwarder	To be submitted to bank
Invoice & Packing list	Set of documents as per PO / LC

**For high sea sales (HSS) :-**

01	Original Invoice in Indian Rupees : three copies
02	Original High sea sales agreement on Rs. 200/- stamp paper (notorised) with two Xerox copies
03	Original Cargo Arrival Notice : with two copies
04	Original Invoice in Foreign Currency : with two copies
05	Original packing list : two copies
06	Original AWB copy (duly endorsed) : two copies
07	Original letter to Customs Officer - either Mumbai or Bangalore ( depending on the airport of destination ) : with one copy
08	Original Letter to OCTROI Officer : with one copy
09	Original Delivery Order copy from the freight forwarder : with one copy



**ANNEXURE – X**

**Electronic Funds Transfer (EFT) OR Paylink Direct Credit Form**

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): \_\_\_\_\_ CREATE \_\_\_\_\_ CHANGE

BHEL Vendor / Supplier Code:	<input type="text"/>
Company Name :	<input type="text"/>
Permanent Account Number(PAN):	<input type="text"/>
Address	<input type="text"/>
	<input type="text"/>

City: <input type="text"/>	PINCODE <input type="text"/>	STATE <input type="text"/>
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Contact Person(s)	<input type="text"/>
Telephone No:	<input type="text"/>
Fax No:	<input type="text"/>
e-mail id:	<input type="text"/>

1 Bank Name:	<input type="text"/>
2 Bank Address:	<input type="text"/>
	<input type="text"/>
3 Bank Telephone No:	<input type="text"/>
4 Bank Account No:	<input type="text"/>
5 Account Type: Savings/Cash Credit	<input type="text"/>
6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank	<input type="text"/>
7 Bank swift Code(applicable for EFT only)	<input type="text"/>
8 Bank IFSC code(applicable for RTGS)	<input type="text"/>
9 Bank IFSC code(applicable for NEFT)	<input type="text"/>

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B 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.
- C This authority remains in full force until BHEL, EDN,Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:  
Designation:

Telephone NO. with STD Code

Company Seal



**Bank Certificate**

We certify that \_\_\_\_\_ has an Account No \_\_\_\_\_ with us and we confirm that the bank details given above are correct as per our records.

Date: \_\_\_\_\_ (.....)  
Place: \_\_\_\_\_ Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call : concerned Purchase Executive